



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION IX
75 Hawthorne Street
San Francisco, CA 94105

**AUTHORIZATION TO DISCHARGE UNDER THE
NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM**

NPDES PERMIT NO. AS0000027

In compliance with the provisions of the Clean Water Act ("CWA") (Public Law 92-500, as amended, 33 U.S.C. 1251 et seq.), the following discharger is authorized to discharge from the identified facility at the outfall location(s) specified below, in accordance with the effluent limits, monitoring requirements, and other conditions set forth in this permit:

Discharger Name	COS Samoa Packing Company, Inc.
Discharger Address	P.O. Box 957
	Pago Pago, Tutuila
	American Samoa 96799
Facility Name	COS Samoa Packing Company, Inc.
Facility Address	Atu'u, Maoputasi
	American Samoa 96799
Facility Rating	Major

Outfall Number	General Type of Waste Discharged	Outfall Latitude	Outfall Longitude	Receiving Water
001	Industrial Wastewater	S 14°16.824'	W 170°40.133'	Pago Pago Harbor

This permit was issued on:	February 28, 2008.
This permit shall become effective on:	April 1, 2008.
This permit shall expire at midnight on:	March 31, 2013.
In accordance with 40 CFR 122.21(d), the discharger shall submit a new application for a permit at least 180 days before the expiration date of this permit, unless permission for a date no later than the permit expiration date has been granted by the Director.	

Signed this 28th day of February, 2008, for the Regional Administrator.

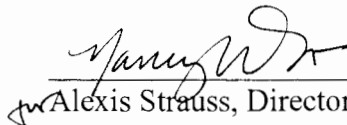

Alexis Strauss, Director
Water Division

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PART I - EFFLUENT LIMITATIONS

- A. During the period beginning on the effective date of this permit and ending on the expiration date of this permit, COS Samoa Packing Company, Inc. (hereinafter, the "permittee") is authorized to discharge industrial wastewater and storm water from its facility from Discharge Outfall Number 001 to Pago Pago Harbor in American Samoa. Such discharge shall be limited and monitored by the permittee as specified in Table 1. The permittee shall maintain compliance with all effluent limitations specified in Table 1 and requirements identified in this permit.
- B. Except as authorized in Table 1 of this permit, the discharge shall not cause the following conditions in the receiving water:
1. The discharge shall be substantially free from materials attributable to sewage, industrial wastes, or other activities of man that will produce objectionable color, odor, or taste, either of itself or in combinations, or in the biota;
 2. The discharge shall be substantially free from visible floating materials, grease, oil, scum, foam, and other floating material attributable to sewage, industrial wastes, or other activities of man;
 3. The discharge shall be substantially free from materials attributable to sewage, industrial wastes, or other activities of man that will produce visible turbidity or settle to form objectionable deposits;
 4. The discharge shall be substantially free from substances and conditions or combinations thereof attributable to sewage, industrial wastes, or other activities of man which may be toxic to humans, other animals, plants, and aquatic life or produce undesirable aquatic life;
 5. The discharge shall not cause the temperature in the receiving water to deviate more than 1.5 degrees Fahrenheit from conditions which would occur naturally, fluctuate more than 1 degree Fahrenheit on an hourly basis, or exceed 85 degrees Fahrenheit due to the influence of other than natural causes;
 6. The discharge shall not cause the concentration of toxic pollutants in the receiving water to exceed aquatic life criteria for marine waters or the human health criteria for consumption of organisms found in EPA 2002, or the more recent version, and section 24.0206 of ASWQS for arsenic and mercury, or outside the zones of mixing established for copper, zinc, mercury, and ammonia;

Table 1 - Proposed effluent limitations and monitoring, monitoring frequency, and sample type for each pollutant or parameter for Discharge Outfall No. 001 for the COS Samoa Packing Company, Inc. facility.

Parameter	Units	Permit Effluent Limitations		Monitoring Requirements	
		Average Monthly	Maximum Daily	Monitoring Frequency	Sample Type
Flow Rate	MGD	--	--	Continuous	Metered
pH	std. units	6.5 ¹	8.6 ²	Continuous	Continuous
		The total time during which the pH values are outside the required range of pH shall not exceed 7 hours and 26 minutes in any calendar month; and no individual excursions from the range of pH values shall exceed 60 minutes.			
Temperature	°F	90	95	Continuous	Continuous
Biological Oxygen Demand	mg/l	--	--	Once/Week	24-hr Composite
Total Suspended Solids	lbs/day	2,970	7,470	Once/Week	24-hr Composite
Oil and Grease	lbs/day	756	1,890	Once/Week	Grab
Total Nitrogen	lbs/day	800	1,935	2x/Week ³	24-hr Composite
Total Phosphorus	lbs/day	208	271	2x/Week	24-hr Composite
Total Ammonia (as N)	mg/l	83.36	167.26	Once/Week	24-hr Composite
	lbs/day	973.31	1,952.93	Once/Week	24-hr Composite
Mercury (total recoverable)	ug/l	1.80	4.72	Semi-annual	24-hr Composite
	lbs/day	0.02	0.06	Semi-annual	24-hr Composite
Copper (total recoverable)	ug/l	58.42	117.22	Semi-annual	24-hr Composite
	lbs/day	0.68	1.37	Semi-annual	24-hr Composite
Zinc (total recoverable)	ug/l	1,138	2,284	Semi-annual	24-hr Composite
	lbs/day	13.29	26.67	Semi-annual	24-hr Composite

¹Instantaneous Minimum

²Instantaneous Maximum

³Monitoring frequency based on sampling 2x per week for total nitrogen and total phosphorus means 24-hour composite samples are collected twice on production days only during a 7-day period.

7. The discharge shall not cause the turbidity in the receiving water to exceed 0.75 Nephelometric Units at and beyond the zone of initial dilution;
 8. The discharge shall not cause the light penetration depth to be less than 65.0 feet (not to exceed given value 50 percent of the time) at and beyond the zone of initial dilution; and
 9. The discharge shall not cause the concentration of dissolved oxygen to be less than 70 percent of saturation or less than 5.0 mg/l at and beyond the zone of initial dilution. If the natural level of dissolved oxygen is less than 5.0 mg/l, the natural level shall become the standard.
- C. The discharge shall not cause the following at the boundary of the zone of mixing for mercury:
1. The discharge shall not cause the water column concentration of mercury to exceed 0.05 ug/l.
- D. The discharge shall not cause the following at the boundary of the zone of mixing:
1. The discharge shall not cause the total phosphorus concentration to exceed 30.0 ug/l as phosphorus;
 2. The discharge shall not cause the total nitrogen concentration to exceed 200.0 ug/l as nitrogen; and
 3. The discharge shall not cause the concentration of chlorophyll-*a* to exceed 1.0 ug/l.

PART II - MONITORING AND REPORTING REQUIREMENTS

A. Effluent Monitoring and Reporting

1. Effluent Sampling

- a. Samples and measurements taken as required in this permit shall be representative of the volume and nature of the monitored discharge. All effluent samples shall be taken after in-plant return flows and the final treatment process and before mixing with the receiving water. All effluent samples shall be taken during normal operations on production days.

2. Effluent Analysis

- a. Effluent monitoring and analyses must be conducted in accordance with EPA test procedures approved under Title 40, Code of Federal Regulations ("CFR"), Part 136, *Guidelines Establishing Test Procedures for the Analysis of Pollutants*

Under the Clean Water Act, as amended. For effluent analyses, the permittee shall utilize a Method Detection Limit ("MDL") or Minimum Level ("ML") that is lower than the effluent limitations described in Table 1 of this permit. If all published MDLs or MLs are higher than the effluent limitations, the permittee shall utilize the test method procedure with the lowest MDL or ML. The permittee shall ensure that the laboratory utilizes a standard calibration where the lowest standard point is equal to or less than the ML. Priority pollutant analysis for metals shall measure "total recoverable metal," except as provided under 40 CFR 122.45(c). Priority pollutant analysis for benzene, ethylbenzene, toluene and xylene shall employ the use of either EPA Methods 602 or 624. Effluent analysis for xylene shall measure "total xylene."

3. Effluent Quality Reporting

- a. For samples collected during the quarterly or semi-annual reporting period, the permittee shall report on the Discharge Monitoring Report ("DMR") the following for each pollutant or parameter:
 - i. The maximum value, if the result is greater than or equal to the ML; or
 - ii. NODI(Q), if result is greater than or equal to the laboratory's MDL but less than the ML; or
 - iii. NODI(B), if result is less than the laboratory's MDL.
- b. For pollutants with effluent limitations expressed in both concentration and mass, the permittee shall report monitoring results on the DMRs in both concentration and mass. To convert concentration to mass, the permittee shall use the following equation:

$$\frac{\text{lbs of pollutants}}{\text{day}} = \text{flow (MGD)} \times \text{concentration (mg/l)} \times 8.34 \frac{\text{lbs/MG}}{\text{mg/l}}$$

- c. As an attachment to each DMR form submitted during the quarterly or semi-annually reporting period, the permittee shall report for all pollutants or parameters with monitoring requirements specified in Table 1 of this permit the following:
 - i. The analytical method number or title, preparation and analytical test procedure utilized by the laboratory, published MDL or ML, the laboratory's MDL;
 - ii. The standard deviation from the laboratory's MDL study; and
 - iii. The number of replicate analyses (*n*) used to compute the laboratory's MDL.

- d. In addition to information requirements specified under 40 CFR 122.41(j)(3), records of monitoring information shall include: the laboratory which performed the analyses and any comment, case narrative, or summary of results produced by the laboratory. The records should identify and discuss quality assurance ("QA") and quality control ("QC") analyses performed concurrently during sample analyses and whether project and 40 CFR 136 requirements were met. The summary of results must include information on initial and continuing calibration, surrogate analyses, blanks, duplicates, laboratory control samples, matrix spike and matrix spike duplicate results, and sample receipt condition, holding time, and preservation.
- e. All monitoring results shall be submitted in such a format as to allow direct comparison with effluent limitations and requirements in this permit. Monitoring results must be reported on a monthly or semi-annual DMR form. Monthly DMR forms shall be submitted quarterly and by the 15th of the month following the previous quarterly reporting period. For example, the three DMR forms for the reporting period January through March shall be submitted by the 15th of April. Semi-annual DMR forms shall be submitted by the 15th of the month following the semi-annual reporting period, unless otherwise specified by EPA.

Duplicate signed copies of these, and all other reports required herein, shall be submitted to the Regional Administrator of EPA and the Director of ASEPA at the following addresses:

Regional Administrator
EPA - Region IX
Pacific Islands Office, CED-6
75 Hawthorne Street
San Francisco, California 94105

Director
ASEPA
P.O. Box PPA
Pago Pago, American Samoa 96799

4. Quality Assurance

- a. The permittee shall develop a Quality Assurance ("QA") Manual for the field collection and laboratory analysis of samples. The purpose of the QA Manual is to assist in planning for the collection and analysis of samples and explaining data anomalies if they occur. The QA Manual shall be prepared and implemented **within 90 days from the effective date of this permit**. At a minimum, the QA Manual shall include the following:

- i. Identification of project management and a description of the roles and responsibilities of the participants; purpose of sample collection; matrix to be sampled; the analytes or compounds being measured; applicable technical, regulatory, or program-specific action criteria; personnel qualification requirements for collecting samples;
 - ii. Description of sample collection procedures; equipment used; the type and number of samples to be collected including QA/QC samples; preservatives and holding times for the samples (see 40 CFR 136.3); and chain of custody procedures;
 - iii. Identification of the laboratory used to analyze the samples; provisions for any proficiency demonstration that will be required by the laboratory before or after contract award such as passing a performance evaluation sample; analytical method to be used; MDL and ML to be reported; required QC results to be reported (e.g., matrix spike recoveries, duplicate relative percent differences, blank contamination, laboratory control sample recoveries, surrogate spike recoveries, etc.) and acceptance criteria; and corrective actions to be taken in response to problems identified during QC checks; and
 - iv. Discussion of how the permittee will perform data review and reporting of results to EPA and ASEPA and how the permittee will resolve data quality issues and identify limits on the use of data.
- b. Throughout all field collection and laboratory analyses of samples, the permittee shall use the QA/QC procedures documented in their QA Manual. If samples are tested by a contract laboratory, the permittee shall ensure that the laboratory has a QA Manual on file. A copy of the permittee's QA Manual shall be retained on the permittee's premises and available for review by EPA or ASEPA upon request. The permittee shall review its QA Manual annually and revise it, as appropriate.

B. Priority Toxic Pollutants Scan

1. In accordance with federal regulations, the permittee shall conduct a Priority Toxics Pollutants scan during the fourth or fifth year of the five-year permit term to ensure that the discharge does not contain toxic pollutants in concentrations that may cause a violation of water quality standards. The permittee shall perform all effluent sampling and analyses for the priority pollutants scan in accordance with the methods described in the most recent edition of 40 CFR 136, unless otherwise specified by EPA. 40 CFR 131.36 provides a complete list of Priority Toxic Pollutants.

C. Outfall Monitoring and Reporting

1. The permittee, in coordination with StarKist Samoa, Inc., shall conduct outfall monitoring to evaluate the condition of the Joint Cannery Outfall. During the permit period the outfall must be inspected along its entire length, from, and including, the discharge connection at the pump(s) for each of COS Samoa Packing Company Inc. and StarKist Samoa, Inc. facilities, to the junction of the COS Samoa Packing Company Inc. and StarKist Samoa, Inc. discharge lines, and from the junction of the lines to the diffuser cap at the termination of the outfall.

The inspection shall include complete video recording of all submerged piping, anchors, fastening hardware, cathodic protection, diffuser ports, and diffuser end cap. The video recording shall include an audio portion that describes in detail the video captured. Where piping is located above the water surface still photographs shall be acceptable.

All circumstances that may possibly threaten the integrity of the outfall, and which may impede its normal operation and function, in the present or future, such as deteriorated hardware and fasteners, anchoring, pipe alignment, or the presence of debris, shall be specifically highlighted in the inspection report. **The permittee shall submit results of the outfall monitoring to EPA and ASEP no later than 90 days after the monitoring event**, unless otherwise specified by EPA.

D. Twenty-four Hour Reporting of Noncompliance

1. In accordance with 40 CFR 122.41(l)(6), the permittee shall report any noncompliance which may endanger human health or the environment. An example of noncompliance is an exceedance of a monthly average effluent limitation. Any information shall be provided orally, within 24 hours from the time the permittee becomes aware of the circumstances, to EPA and ASEPA.

The permittee shall notify EPA and ASEPA at the following telephone numbers:

Pacific Islands Office, CED-6
EPA - Region IX
(415) 972-3769

Director
ASEPA
(684) 633-2304

A written submission shall also be provided within five days of the time the permittee becomes aware of the circumstances. The written submission shall contain a description of the noncompliance and its cause; the period of noncompliance,

including exact dates and times; and, if the noncompliance has not been corrected, the anticipated time that the noncompliance is expected to continue; and the steps taken or planned to reduce, eliminate, and prevent reoccurrence of the noncompliance.

PART III - REOPENER PROVISIONS

- A. In accordance with 40 CFR 122 and 124, this permit may be modified by EPA to include effluent limits, monitoring, or other conditions to implement new regulations, including EPA-approved water quality standards; or to address new information indicating the presence of effluent toxicity or the reasonable potential for the discharge to cause or contribute to exceedances of water quality standards.
- B. In accordance with 40 CFR and Parts 122 and 124, this permit may be modified to include effluent limitations or permit conditions to address chronic toxicity in the effluent or receiving water body, as a result of the discharge; or implement new, revised, or newly interpreted water quality standards applicable to chronic toxicity.

PART IV - STANDARD CONDITIONS

- A. The permittee shall comply with all Standard Conditions included as an attachment to this permit.

PART V - SPECIAL CONDITIONS

- A. Best Management Practices and Pollution Prevention

- 1. Pollution Prevention Program

- a. The permittee is required to develop and implement appropriate pollution prevention measures or Best Management Practices (“BMPs”) designed to control site runoff, spillage or leaks, sludge or waste disposal, and drainage from fish processing areas that may contribute significant amounts of such pollutants to surface waters **within 90 days from the effective date of this permit** (section 304(e) of the CWA and 40 CFR 122.44(k)). BMPs shall include but are not limited to those necessary to control total suspended solids and oil and grease. Through the implementation of BMPs described in a BMP Plan, the permittee shall prevent or minimize the generation and discharge of wastes and pollutants from the facility to waters of the United States. The BMP plan shall be located at the facility and be made available upon request by EPA and/or ASEPA. Table 2 provides a summary of deadlines and activities, such as the development and implementation of a BMP plan, required in Special Conditions in this permit.

- 2. Pollutant Minimization Plan

- a. The permittee shall develop and implement a Pollutant Minimization Plan. The permittee shall submit a Pollutant Minimization Plan workplan to EPA and ASEPA **no later than one year after the effective date of the permit** on how it will assess the sources of pollutants in different waste streams. Based on results of implementing the workplan, the permittee shall develop a Pollutant Minimization Plan. **The Pollutant Minimization Plan shall be submitted by the end of the third year of the five-year permit cycle**, unless otherwise specified by EPA. For the purposes of the Pollutant Minimization Plan, pollutants include, but are not limited to, copper, zinc, and mercury. Copper, zinc, and mercury have been observed in the effluent at high concentrations due to routine cannery operations. Although mixing zones for these pollutants have been approved by American Samoa EQC, the permittee shall make every effort to identify the sources of these pollutants within the facility and develop a plan to minimize their entry into the facility's wastewater and subsequent discharge to the receiving water. The goal of the Pollutant Minimization Plan shall be to achieve as soon as practicable for the discharge to meet water quality standards copper, zinc, and mercury with a minimally sized mixing zone. **The permittee shall implement the Pollutant Minimization Plan in the fourth and fifth year of the five-year permit cycle.** Table 2 provides a summary of deadlines and activities, such as the development and implementation of a Pollutant Minimization Plan, required in Special Conditions in this permit.

B. Receiving Water Monitoring Program

1. Receiving Water Monitoring

- a. The permittee shall conduct **semi-annual** receiving water monitoring that corresponds to tradewind and non-tradewind seasons. The permittee shall monitor at the following previously established receiving water monitoring locations pollutants or parameters at three depths, i.e., surface, mid-depth and bottom depth.
 - i. **Reference site**, Station 5, for monitoring of background concentrations for total phosphorus, total nitrogen, zinc, copper, mercury, and total ammonia;
 - ii. **End of the Pipe**, Station 14, for monitoring of zinc, copper, total mercury, total ammonia to evaluate mixing zones within the zone of initial dilution;
 - iii. **Zone of initial dilution**, Stations 8 and 8A, for monitoring of zinc, copper, total mercury, and total ammonia to evaluate their respective mixing zones that were authorized for this permit term; Stations 8 and 8A are located at the boundary of the zone of initial dilution;
 - iv. **Zone of mixing**, Station 16, for monitoring of total phosphorus, total nitrogen, and light penetration to evaluate the size of the mixing zone for nutrients that

was authorized for this permit term and to determine compliance with narrative WQBELs; Station 16 is located at the boundary of the zone of mixing;

- v. **All stations** at the zone of initial dilution and zone of mixing for monitoring of visible floating materials, grease, oil, scum or foam; and
- vi. **All stations** at the zone of initial dilution, zone of mixing, and reference site the measurement of vertical profiles of temperature, salinity, and dissolved oxygen, and light penetration at 65 feet to determine compliance with narrative WQBELs and/or ASWQS, and for future initial dilution and mixing zone re-analyses if determined necessary by EPA and ASEPA.

2. Receiving Water Monitoring Reporting

- a. Semi-annual receiving water monitoring results shall be submitted to EPA and ASEPA prior to the subsequent semi-annual receiving water monitoring event, unless otherwise specified by EPA. For example, if surface water samples were collected during the non-tradewind season in March, and tradewind sampling is scheduled for October, results shall be submitted to EPA and ASEPA prior to the October sampling event.
- b. Table 2 provides a summary of deadlines and activities, such as implementation of a Receiving Water Monitoring Program, required in Special Conditions in this permit.

C. Nutrient Loading and Assimilative Capacity Assessment

1. Nutrient Assessment

- a. The permittee, in coordination with StarKist Samoa, Inc., shall conduct an assessment of nutrient levels in the combined cannery effluent following initial mixing with the receiving water, under critical conditions, and subsequent dilution (i.e., farfield dilution). The purpose of the assessment is to determine whether the existing mass-based effluent limitations for nutrients are indeed set at the upper bounds of acceptable performance or the waste load allocation.
- b. The permittee, in coordination with StarKist Samoa, Inc., shall prepare and submit **no later than one year from the effective date of the permit, unless otherwise specified by EPA**, a Nutrient Loading and Assimilative Capacity Assessment workplan to EPA and ASEPA for review that describes the steps that will be taken to assess nutrients in the combined effluents discharges and the dilution required to meet water quality standards. At a minimum, the workplan (no more than five pages) shall include the following:

- i. Description of the method(s) used to determine existing mass-based effluent limitations;
- ii. Description of the water quality models to be used to assess nutrients in the discharge; and
- iii. A list of the projected outputs (e.g., dilution factors) from the models.

2. Nutrient Assessment Reporting

- a. The permittee, in coordination with StarKist Samoa, Inc., shall submit a final report on the nutrient assessment to EPA and ASEPA **no later than the end of the third year of the five year permit term, unless otherwise specified by EPA**. At a minimum, the final report shall include the following:
 - i. Dilution calculations;
 - ii. Waste load allocation estimates (in concentration);
 - iii. Summary of model inputs and outputs (e.g., ambient and effluent data, flow); and
 - iv. Evaluation of the existing size of the mixing zone for nutrients based on modeling results.
- b. Table 2 provides a summary of deadlines and activities, such as implementation of a Nutrient Loading and Assimilative Capacity Assessment, required in Special Conditions in this permit.

D. Chronic Toxicity Special Study

1. Chronic Toxicity Testing and Range-Finding Tests

- a. The permittee, in coordination with StarKist Samoa, Inc., shall conduct a special study to evaluate chronic toxicity levels of the combined cannery effluent following initial mixing with the receiving water, under critical conditions, and subsequent dilution.
- b. The permittee, in coordination with StarKist Samoa, Inc., shall conduct **semi-annual** chronic toxicity testing using combined flow-weighted 24-hour composite effluent samples from its facility and the StarKist Samoa, Inc., facility. The purposes of the study are to determine the following:
 - i. Levels of chronic toxicity in the discharge;
 - ii. The appropriate seawater-to-effluent dilution ratio where the threshold for chronic toxicity is observed using a range finding testing procedures; and
 - iii. Effluent triggers or limits.

Table 2 - Summary of Schedule of Activities Pursuant to Special Conditions of this Permit.

Timeframe/Deadline	Activity
Upon Effective Date of Permit	Implement Receiving Water Monitoring Program
Implement within 90 days from Effective Date of Permit	Implement Pollution Prevention Program Submit Initial Investigation TRE Workplan (1-2 pages)
No Later than 180 Days from Effective Date of Permit	Submit Workplan for Chronic Toxicity Testing Special Study
No Later than One Year from Effective Date of Permit	Submit Workplan for Pollutant Minimization Plan Submit Workplan for Nutrient Loading and Assimilative Capacity Assessment
Years 1 - 3	Perform Semi-Annual Chronic Toxicity Bioassays using Range-Finding Tests
No Later than End of the Third Year from Effective Date of Permit	Submit Pollutant Minimization Plan Submit Final Report on Nutrient Loading and Assimilative Capacity Assessment
No Later than 90 days after Final Range-Finding Test	Final Report on Results of Semi-Annual Chronic Toxicity Bioassays using Range-Finding Tests (includes Chronic IWC value)
Years 4 - 5	Implement Pollutant Minimization Plan Perform Semi-Annual Chronic Toxicity Bioassays using Chronic IWC Based on Range-Finding Tests

- c. The permittee, in coordination with StarKist Samoa, Inc., shall prepare and submit **no later than 180 days from the effective date of the permit** a Chronic Toxicity Special Study workplan to EPA and ASEPA for review and approval that describes the steps to assess chronic toxicity in the combined effluents discharge. **At a minimum**, the workplan (no more than five pages) shall include a description of the procedures to determine the range of test concentrations and chronic toxicity, and who will be conducting the toxicity tests.

Company, Inc. facility (i.e., downstream from the last treatment process and any in-plant return flows where a representative effluent sample can be obtained).

- e. The permittee shall conduct a static non-renewal toxicity test with the purple sea urchin, *Strongylocentrotus purpuratus*, or sand dollar, *Dendraster excentricus* (Embryo-larval Development Test Method). Species and short-term test methods for estimating the chronic toxicity of NPDES effluents are found in the first edition of *Short-term Methods for Estimating the Chronic Toxicity of Effluents and Receiving Waters to West Coast Marine and Estuarine Organisms* (EPA 1995).
- f. **There are no chronic toxicity effluent limitations for the combined effluent. For years one through three of the five-year permit term**, the permittee, in coordination with StarKist Samoa, Inc., shall conduct **range-finding tests** to establish test solution concentrations, or the chronic toxicity in-stream waste concentration ("IWC") that includes the appropriate dilution factor, for definitive tests or routine chronic toxicity bioassays to be conducted in years four and five of the permit term. The range of concentrations just causing a chronic effect shall be determined in a range-finding test to provide information on the range of concentrations to be used in the routine chronic toxicity bioassays.
- g. The permittee shall perform semi-annual range-finding tests on a series of at least five effluent dilutions and proper controls. At completion of the range-finding tests, the permittee, in coordination with StarKist Samoa, Inc., shall prepare and submit **no later than 90 days from the final semi-annual range-finding test** a final report to EPA and ASEPA for review that describes the results of the range-finding tests. At a minimum, the final report shall include the following:
 - i. The levels of chronic toxicity in the discharge (e.g., the lowest observed effective concentration or LOEC);
 - ii. The appropriate seawater-to-effluent dilution ratio where the threshold for chronic toxicity is observed using a range finding testing procedures;
 - iii. NOEC and EC₂₅ (or IC₂₅) data and all data used to calculate it (include all statistical methods and concentration-response curves);
 - iv. The dilution series to be used in routine chronic toxicity bioassays in years four and five of the five-year permit term (the dilution series shall include the combined discharge IWC and two dilutions above and below this IWC); and
 - v. Effluent triggers based on the calculated IWC to assess chronic toxicity of the combined effluents.
- h. As part of the chronic toxicity special study, **in years four and five of the five-year permit term**, the permittee, in coordination with StarKist Samoa, Inc, shall conduct routine semi-annual chronic toxicity testing using the chronic toxicity IWC that was determined from the range-finding tests. The results of the range-finding tests shall be used to select at least five concentrations that include and

bracket the IWC. Tests using this series of concentrations should allow the NOEC and EC₂₅ (or IC₂₅) values and their confidence limits to be estimated as precisely as possible.

- i. Table 2 provides a summary of deadlines and activities, such as conducting a Chronic Toxicity Special Study, required in Special Conditions in this permit

2. Quality Assurance for Chronic Toxicity

- a. Quality assurance measures, instructions, and other recommendations and requirements are found in the first edition of *Short-term Methods for Estimating the Chronic Toxicity of Effluents and Receiving Waters to West Coast Marine and Estuarine Organisms* (EPA 1995).
- b. Effluent dilution water and control water should be prepared and used as specified in the test methods manual *Short-term Methods for Estimating the Chronic Toxicity of Effluents and Receiving Waters to West Coast Marine and Estuarine Organisms* (EPA 1995). If the dilution water is different from test organism culture water, then a second control using culture water shall also be used. If the use of artificial sea salts is considered provisional in the test method, then artificial sea salts shall not be used to increase the salinity of the effluent sample prior to toxicity testing without written approval by the permitting authority.
- c. If organisms are not cultured in-house, concurrent testing with a reference toxicant shall be conducted. Where organisms are cultured in-house, monthly reference toxicant testing is sufficient. Reference toxicant tests and effluent toxicity tests shall be conducted using the same test conditions (e.g., same test duration, etc.).
- d. If either the reference toxicant or effluent toxicity tests do not meet all test acceptability criteria in the test methods manual, the permittee must re-sample and re-test within 14 days of receiving the test results from the laboratory.
- e. Because this permit requires sublethal hypothesis testing endpoints from test methods in *Short-term Methods for Estimating the Chronic Toxicity of Effluents and Receiving Waters to West Coast Marine and Estuarine Organisms* (EPA 1995), with-in test variability must be reviewed for acceptability and variability criteria (upper percent MSD bound) must be applied, as directed under each test methods. Based on this review, only accepted effluent toxicity test results shall be reported on the DMR form.
- f. When effluent monitoring frequencies for whole effluent toxicity and priority pollutants are concurrent, the permittee shall perform chemical analyses for priority pollutants on a split sample collected for whole effluent toxicity testing.

3. Reporting of Chronic Toxicity Special Study Results

- a. A full laboratory report for all toxicity testing shall be submitted as an attachment to the DMR for the semi-annual period in which the toxicity test was conducted and shall also include: the toxicity test results - in **NOEC**; **$TU_c = 100 \div NOEC$** ; **EC₂₅ (or IC₂₅)**; and **$TU_c = 100 \div EC_{25}$ (or IC₂₅)** - reported according to the test methods manual chapter on report preparation and test review; the dates of sample collection and initiation of each toxicity test; all results for effluent parameters monitored concurrently with the toxicity test(s); and progress reports on TRE/TIE investigations. NOEC is the highest concentration of toxicant which organisms are exposed in a short-term chronic test that causes no observable adverse effects on the test organisms (e.g., the highest concentration of toxicant in which the values for the observed responses are not statistically significantly different from the controls). The permit requires additional toxicity testing if a chronic toxicity monitoring trigger is exceeded.
- b. The permittee shall notify the permitting authority in writing within 14 days of exceedance of a chronic toxicity monitoring trigger. This notification shall describe actions the permittee has taken or will take to investigate, identify, and correct the causes of toxicity; the status of actions required by this permit; and schedule for actions not yet completed; or reason(s) that no action has been taken.

4. TRE Workplan for Chronic Toxicity

- a. **No later than 90 days after the effective date of the permit**, the permittee shall prepare and submit a copy of a TRE Workplan (1-2 pages) specific to chronic toxicity to EPA and ASEPA for review. This plan shall include steps the permittee intends to follow if toxicity is measured above chronic toxicity monitoring triggers and should include, at a minimum the following:
 - i. A description of the investigation and evaluation techniques that would be used to identify potential causes and sources of chronic toxicity, effluent variability, and treatment system efficiency;
 - ii. A description of methods for maximizing in-house treatment system efficiency, good housekeeping practices, and a list of all chemicals used in operations at the facility; and
 - iii. If a Toxicity Identification Evaluation ("TIE") is necessary, an indication of who would conduct the TIE (i.e., an in-house expert or outside contractor).

5. Accelerated Toxicity Testing and TRE/TIE Process for Chronic Toxicity

- a. **If during range finding testing in years one through three, one test result is found to be greater than 256 TU_c (during the semi-annual reporting period)**

or a NOEC of 0.390 percent effluent (which is based on a maximum allowable dilution of 313:1 estimated at the ZID), the permittee is required to perform accelerated toxicity testing.

- b. If during routine semi-annual chronic toxicity testing, a chronic toxicity monitoring trigger based on the IWC is exceeded and the **source of toxicity is known** (e.g., a temporary plant upset), then the permittee shall conduct **one additional toxicity test** using the same species and test method. This test shall begin within 14 days of receipt of test results exceeding a chronic toxicity monitoring trigger. If the additional toxicity test does not exceed a chronic toxicity monitoring trigger, then the permittee may return to their regular testing frequency.
- c. If during routine semi-annual chronic toxicity testing, a chronic toxicity monitoring trigger is exceeded and the **source of toxicity is not known**, then the permittee shall conduct **six additional toxicity tests** using the same species and test method, approximately every two weeks, over a 12 week period. This testing shall begin within 14 days of receipt of test results exceeding the chronic toxicity monitoring trigger. If none of the additional toxicity tests exceed a chronic toxicity monitoring trigger then the permittee may return to their regular testing frequency.
- d. If additional toxicity tests (as stated paragraphs 5a, 5b and 5c above) exceeds a chronic toxicity monitoring trigger, then, within 14 days of receipt of this test result, the permittee shall implements its TRE Workplan (as described in Part 4 of this section) using the same species and test method and, as guidance, EPA manual EPA manual *Generalized Methodology for Conducting Industrial Toxicity Reduction Evaluations* (EPA 1989).
- e. The permittee may initiate a TIE as part of a TRE to identify the causes of chronic toxicity, using as guidance the following EPA manuals: *Toxicity Identification Evaluation: Characterization of Chronically Toxic Effluents, Phase I* (EPA 1992); *Methods for Aquatic Toxicity Identification Evaluations, Phase II Toxicity Identification Procedures for Samples Exhibiting Acute and Chronic Toxicity* (EPA 1993a); *Methods for Aquatic Toxicity Identification Evaluations, Phase III Toxicity Confirmation Procedures for Samples Exhibiting Acute and Chronic Toxicity* (EPA 1993b); and *Marine Toxicity Identification Evaluation (TIE): Phase I Guidance Document* (EPA 1996).

PART VI - DEFINITIONS

24-hr Composite. A “composite” sample means a time-proportioned mixture of not less than eight discrete aliquots obtained at equal time intervals (e.g., 24-hour composite means a minimum of eight samples collected every three hours). The volume of each aliquot shall be directly proportional to the discharge flow rate at the time of sampling, but not less than 100 ml. Sample collection, preservation, and handling shall be performed as described in the most recent edition of 40 CFR 136.3, Table II. Where collection, preservation, and handling procedures are not outlined in 40 CFR 136.3, procedures outlined in the 18th edition of *Standard Methods for the Examination of Water and Wastewater* shall be used.

Average Monthly Effluent Limitation ("AML"). The highest allowable average of daily discharges over a calendar month, calculated as the sum of all daily discharges measured during a calendar month divided by the number of daily discharges measured during that month.

Best Management Practices ("BMPs"). Best Management Practices” or “BMPs” are schedules of activities, prohibitions of practices, maintenance procedures, and other physical, structural, and/or managerial practices to prevent or reduce the pollution of waters of the U.S. BMPs include treatment systems, operating procedures, and practices to control: plant site runoff, spillage or leaks, sludge or waste disposal, or drainage from raw material storage. BMPs may further be characterized as operational, source control, erosion and sediment control, and treatment BMPs.

Chronic Toxicity. The degree to which a pollutant, discharge, or water sample causes a sublethal toxic response, such as an alteration in growth rate or reproduction.

Chronic Toxic Unit (TU_c). The reciprocal of the highest tested concentration of an effluent or test sample whose effect is not statistically different from the control determined in a chronic toxicity test (i.e., $TU_c = 100 \div NOEC$).

Daily Discharge. A “daily discharge” means the “discharge of a pollutant” measured during a calendar day or any 24-hour period that reasonably represents the calendar day for purposes of sampling. For pollutants with limitations expressed in units of mass, the “daily discharge” is calculated as the total mass of the pollutant discharged over the day. For pollutants with limitations expressed in other units of measurement, the “daily discharge” is calculated as the average measurement of the pollutant over the day.

Discharge Monitoring Report (“DMR”). A NPDES form for the reporting of self-monitoring NPDES results by the permittee.

Grab Sample. A single individual sample collected at a particular time and place that represents the composition of the discharge only at that time and place. Sample collection, preservation, and handling shall be performed as described in the most recent edition of 40 CFR 136.3, Table II. Where collection, preservation, and handling procedures are not outlined in 40 CFR 136.3,

procedures outlined in the 18th edition of *Standard Methods for the Examination of Water and Wastewater* shall be used.

Maximum Daily Effluent Limitation ("MDL"). The highest allowable daily discharge of a pollutant or parameter, over a calendar day or 24-hr period. For pollutants with limitations expressed in terms of mass, the daily discharge is calculated as the total mass of the pollutant discharged over the day.

Method Detection Limit ("MDL"). The minimum concentration of an analyte that can be detected with 99 percent confidence that the analyte concentration is greater than zero, as defined by a specific laboratory method in 40 CFR 136. The procedure for determination of a laboratory MDL is in 40 CFR 136, Appendix B.

Minimum Level ("ML"). The concentration at which the entire analytical system must give a recognizable signal and acceptable calibration point. The ML is the concentration in a sample that is equivalent to the concentration of the lowest calibration standard analyzed in a specific analytical procedure, assuming that all the method-specific sample weights, volumes, and processing steps have been followed (as defined in EPA's draft *National Guidance for the Permitting, Monitoring, and Enforcement of Water Quality-Based Effluent Limitations Set Below Analytical Detection/Quantitative Levels*, March 22, 1994). If a published method-specific ML is not available, then an interim ML shall be calculated. The interim ML is equal to 3.18 times the published method-specific MDL rounded to the nearest multiple of 1, 2, 5, 10, 20, 50, etc. (When neither an ML nor MDL are available under 40 CFR 136, an interim ML should be calculated by multiplying the best estimate of detection by a factor of 3.18; when a range of detection is given, the lower end value of the range of detection should be used to calculate the

ML.) At this point in the calculation, a different procedure is used for metals, than non-metals:

- For metals, due to laboratory calibration practices, calculated MLs may be rounded to the nearest whole number; and
- For non-metals, because analytical instruments are generally calibrated using the ML as the lowest calibration standard, the calculated ML is then rounded to the nearest multiple of $(1, 2, \text{ or } 5) \times 10^n$, where n is zero or an integer. (For example, if an MDL is 2.5 ug/l, then the calculated ML is: $2.5 \text{ ug/l} \times 3.18 = 7.95 \text{ ug/l}$. The multiple of $(1, 2, \text{ or } 5) \times 10^n$ nearest to 7.95 is $1 \times 10^1 = 10 \text{ ug/l}$, so the calculated ML, rounded to the nearest whole number, is 10 ug/l.).

NODI(B). The concentration of the pollutant in a sample is not detected. NODI(B) is reported on a DMR when a sample result is less than the laboratory's MDL.

NODI(Q). The concentration of the pollutant in a sample is detected but not quantified. NODI(Q) is reported on a DMR when a sample result is greater than or equal to the laboratory's MDL, but less than the ML.

No Observed Effect Concentration ("NOEC"). The highest tested concentration of an effluent or test sample whose effect is not statistically different from the control.

Toxicity Identification Evaluation ("TIE"). A set of procedures to identify the specific chemical(s) responsible for toxicity. These procedures are performed in three phases (characterization, identification, and confirmation) using aquatic organisms toxicity tests.

Toxicity Reduction Evaluation ("TRE"). A study conducted in a step-wise process designed to identify the causative agents of effluent or ambient toxicity, isolate the sources of toxicity, evaluate the effectiveness of toxicity control options, and then confirm the reduction in toxicity. The first steps of the TRE consist of the collection of data relevant to the toxicity, including additional toxicity testing, and an evaluation of facility operations and maintenance practices, and best management practices. A Toxicity Identification Evaluation ("TIE") may be required as part of the TRE, if appropriate.

Whole Effluent Toxicity ("WET"). The aggregate toxic effect of an effluent measured directly with a toxicity test.

Zone of Initial Dilution ("ZID"). By definition within American Samoa water quality standards, it is the area of a plume where dilution is achieved due to the combined effects of momentum and buoyancy of the effluent discharged from an orifice. This is also often referred as the region of initial mixing surround or adjacent to the end of the outfall pipe or diffuser port. For the purposes of this permit, the ZID represents a seawater-to-effluent dilution ratio of 313:1 based on critical initial dilution.

Zone of Mixing ("ZOM"). A defined portion of a water body receiving water around a point source within which specific modifications of applicable water quality standards are approved by American Samoa Environmental Quality Council.

PART VII - REFERENCES

EPA. 1989. Generalized Methodology for Conducting Industrial Toxicity Reduction Evaluations. Fava, J. A., Lindsay, D., Clement, W. H., Clark, R., and DeGraeve, G. M. Chemicals and Chemical Product Branch, Risk Reduction Engineering Laboratory, EPA. EPA/600/2-88/070.

EPA. 1992. Toxicity Identification Evaluations: Characterization of Chronically Toxic Effluents, Phase I. Office of Research and Development, Environmental Research Laboratory, EPA. EPA/600/6-91/005F.

EPA. 1993a. Methods for Aquatic Toxicity Identification Evaluations, Phase II Toxicity Identification Procedures for Samples Exhibiting Acute and Chronic Toxicity. Office of Research and Development, EPA. EPA/600/R-92/080.

EPA 1993b. Methods for Aquatic Toxicity Identification Evaluations, Phase III Toxicity Confirmation Procedures for Samples Exhibiting Acute and Chronic Toxicity. Office of Research and Development, EPA. EPA/600/R-92/081.

EPA. 1995. Short-term Methods for Estimating the Chronic Toxicity of Effluents and Receiving Waters to West Coast Marine and Estuarine Organisms. Chapman, G. A., Denton, D. L., and Lazorchak, J. M. National Exposure Research Laboratory, Office of Research and Development, EPA. EPA/600/R-95/136.

EPA. 1996. Marine Toxicity Identification Evaluation (TIE): Phase I Guidance Document. Burgess, R. M., Ho, K. T., Morrison, G. E., Chapman, G. and Denton, D. L. National Health and Environmental Effects Laboratory, Atlantic Ecology Division, EPA, Narragansett, RI. EPA/600/R-96/054.

EPA. 2002. National Recommended Water Quality Criteria. Office of Water, EPA. EPA/822/R-02/047.

PART VIII - ATTACHMENT

ATTACHMENT A

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

REGION IX

CWA STANDARDS AND PERMITS OFFICE (WTR-5)

STANDARD FEDERAL NPDES PERMIT CONDITIONS

Updated as of June 3, 2002

Reference: CFR 40 Parts 100 to 135, July 1, 2001

1. DUTY TO REAPPLY [40 CFR 122.21 (d)]

The permittee shall submit a new application 180 days before the existing permit expires.
122.2(c)(2)

POTW's with currently effective NPDES permits shall submit with the next application the sludge information listed at 40 CFR 501.15(a)(2).

2. APPLICATIONS [40 CFR 122.22]

All permit applications shall be signed as follows:

(1) For a corporation, by a responsible corporate officer. For the purpose of this section, a responsible corporate officer means:

(i) A president, secretary, treasurer, or vice-president of the corporation in charge of a principal business function, or any other person who performs similar policy- or decision-making functions for the corporation, or

(ii) The manager of one or more manufacturing, production, or operating facilities, provided, the manager is authorized to make management decisions which govern the operation of the regulated facility including having the explicit or implicit duty of making major capital investment recommendations, and initiating and directing other comprehensive measures to assure long term environmental compliance with environmental laws and regulations; the manager can ensure that the necessary systems are established or actions taken to gather complete and accurate information for permit application requirements; and where authority to sign documents has been assigned or delegated to the manager in accordance with corporate procedures.

(2) For a partnership or sole proprietorship. By a general partner or the proprietor, respectively; or

(3) For a municipality, State, Federal, or other public agency. By either a principal executive officer or ranking elected official. For purposes of this section, a principal executive officer of a Federal agency includes: (i) The chief executive officer of the agency, or (ii) a senior executive officer having responsibility for the overall operations of a principal geographic unit of the agency (e.g., Regional Administrators of EPA).

All reports required by permits, and other information requested by the Director shall be signed by a person described in paragraph (a) of this section, or by a duly authorized representative of that person. A person is a duly authorized representative only if:

(1) The authorization is made in writing by a person described in paragraph (a) of this section;

(2) The authorization specifies either an individual or position having responsibility for the overall operation of the regulated facility or activity such as the position of plant manager, operator of a well or a well field, superintendent, position of equivalent responsibility, or an individual or position having overall responsibility for environmental matters for the company, (a duly authorized representative may thus be either a named individual or any individual occupying a named position.) and,

(3) The written authorization is submitted to the Director.

Changes to authorization. If an authorization under paragraph (b) of this section is no longer accurate because a different individual or position has responsibility for the overall operation of the facility, a new authorization satisfying the requirements of paragraph (b) of this section must be submitted to the Director prior to or together with any reports, information, or applications to be signed by an authorized representative.

Certification. Any person signing a document under paragraph (a) or (b) of this section shall make the following certification:

(1) I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

3 . DUTY TO COMPLY [40 CFR 122.41(a)]

The permittee must comply with all conditions of this permit. Any permit noncompliance constitutes a violation of the Clean Water Act and is grounds for enforcement action; for permit termination, revocation and reissuance, or modification; or denial of a permit renewal application.

(1) The permittee shall comply with effluent standards or prohibitions established under section 307(a) of the Clean Water Act for toxic pollutants and with standards for sewage sludge use or disposal established under section 405(d) of the CWA within the time provided in the regulations that establish these standards or prohibitions or standards for sewage sludge use or disposal, even if the permit has not yet been modified to incorporate the requirement.

(2) The Clean Water Act provides that any person who violates section 301, 302, 306, 307, 308, 318 or 405 of the Act, or any permit condition or limitation implementing any such sections in a permit issued under section 402, or any requirement imposed in a pretreatment program approved under sections 402(a)(3) or 402(b)(8) of the Act, is subject to a civil penalty not to exceed \$25,000 per day for each violation. The Clean Water Act provides that any person who negligently violates sections 301, 302, 306, 307, 308, 318, or 405 of the Act, or any condition or limitation implementing any of such sections in a permit issued under section 402 of the Act, or any requirement imposed in a pretreatment program approved under section 402(a)(3) or 402(b)(8) of the Act, is subject to criminal penalties of \$2,500 to \$25,000 per day of violation, or imprisonment of not more than 1 year, or both. In the case of a second or subsequent conviction for a negligent violation, a person shall be subject to criminal penalties of not more than \$50,000 per day of violation, or by imprisonment of not more than 2 years, or both. Any person who knowingly violates such sections, or such conditions or limitations is subject to criminal penalties of \$5,000 to \$50,000 per day of violation, or imprisonment for not more than 3 years, or both. In the case of a second or subsequent conviction for a knowing violation, a person shall be subject to criminal penalties of not more than \$100,000 per day of violation, or imprisonment of not more than 6 years, or both. Any person who knowingly violates section 301, 302, 303, 306, 307, 308, 318, or 405 of the Act, or any permit condition of limitation implementing any of such sections in a permit issued under section 402 of the Act, and who knows at the time that he thereby places another person in imminent danger of death or serious bodily injury, shall, upon conviction, be subject to a fine of not more than \$250,000 or imprisonment of not more than 15 years, or both. In the case of a second or subsequent conviction for a knowing endangerment violation, a person shall be subject to a fine of not more than \$500,000 or by imprisonment of not more than 30 years, or both.

An organization, as defined in section 309(c)(3)(B)(iii) of the CWA, shall, upon conviction of violating the imminent danger provision, be subject to a fine of not more than \$1,000,000 and can be fined up to \$2,000,000 for second or subsequent convictions.

(3) Any person may be assessed an administrative penalty by the Administrator for violating section 301, 302, 306, 307, 308, 318 or 405 of this Act, or any permit condition or limitation implementing any of such sections in a permit issued under section 402 of this Act.

Administrative penalties for Class I violations are not to exceed \$10,000 per violation, with the maximum amount of any Class I penalty assessed not to exceed \$25,000. Penalties for Class II violations are not to exceed \$10,000 per day for each day during which the violation continues, with the maximum amount of any Class II penalty not to exceed \$125,000.

4. NEED TO HALT OR REDUCE ACTIVITY NOT A DEFENSE [40 CFR 122.41(c)]

It shall not be a defense for a permittee in an enforcement action that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with the conditions of this permit.

5. DUTY TO MITIGATE [40 CFR 122.41(d)]

The permittee shall take all reasonable steps to minimize or prevent any discharge or sludge use or disposal in violation of this permit which has a reasonable likelihood of adversely affecting human health or the environment.

6. PROPER OPERATION AND MAINTENANCE [40 CFR 122.41(e)]

The permittee shall at all times properly operate and maintain all facilities and systems of treatment and control (and related appurtenances) which are installed or used by the permittee to achieve compliance with the conditions of this permit. Proper operation and maintenance also includes adequate laboratory controls and appropriate quality assurance procedures. This provision requires the operation of backup or auxiliary facilities or similar systems which are installed by a permittee only when the operation is necessary to achieve compliance with the conditions of the permit.

7. PERMIT ACTIONS [40 CFR 122.41(f)]

This permit may be modified, revoked and reissued, or terminated for cause. The filing of a request by the permittee for a permit modification, revocation and reissuance, or termination, or a notification of planned changes or anticipated noncompliance does not stay any permit condition.

8. PROPERTY RIGHTS [40 CFR 122.41(g)]

This permit does not convey any property rights of any sort, or any exclusive privilege.

9. DUTY TO PROVIDE INFORMATION [40 CFR 122.41(h)]

The permittee shall furnish to the Director, within a reasonable time, any information which the Director may request to determine whether cause exists for modifying, revoking and reissuing, or terminating this permit or to determine compliance with this permit. The permittee shall also furnish to the Director upon request, copies of records required to be kept by this permit.

10. INSPECTION AND ENTRY [40 CFR 122.41(i)]

The permittee shall allow the Director, or an authorized representative (including an authorized contractor acting as a representative of the Administrator), upon presentation of credentials and other documents as may be required by law, to:

- (1) Enter upon the permittee's premises where a regulated facility or activity is located or conducted, or where records must be kept under the conditions of this permit;
- (2) Have access to and copy, at reasonable times, any records that must be kept under the conditions of this permit;
- (3) Inspect at reasonable times any facilities, equipment (including monitoring and control equipment), practices, or operations regulated or required under this permit; and
- (4) Sample or monitor at reasonable times, for the purposes of assuring permit compliance or as otherwise authorized by the Clean Water Act, any substances or parameters at any location.

11. MONITORING AND RECORDS [40 CFR 122.41(j)]

(1) Samples and measurements taken for the purpose of monitoring shall be representative of the monitored activity.

(2) Except for records of monitoring information required by this permit related to the permittee's sewage sludge use and disposal activities, which shall be retained for a period of at least five years (or longer as required by 40 CFR part 503), the permittee shall retain records of all monitoring information, including all calibration and maintenance records and all original strip chart recordings for continuous monitoring instrumentation, copies of all reports required by this permit, and records of all data used to complete the application for this permit, for a period of at least 3 years from the date of the sample, measurement, report or application. This period may be extended by request of the Director at any time.

(3) Records of monitoring information shall include:

- (i) The date, exact place, and time of sampling or measurements;
- (ii) The individual(s) who performed the sampling or measurements;
- (iii) The date(s) analyses were performed;
- (iv) The individual(s) who performed the analyses;
- (v) The analytical techniques or methods used; and
- (vi) The results of such analyses.

(4) Monitoring results must be conducted according to test procedures approved under 40 CFR part 136 or, in the case of sludge use or disposal, approved under 40 CFR part 136 unless otherwise specified in 40 CFR part 503, unless other test procedures have been specified in the permit.

(5) The Clean Water Act provides that any person who falsifies, tampers with, or knowingly renders inaccurate any monitoring device or method required to be maintained under this permit shall, upon conviction, be punished by a fine of not more than \$10,000, or by imprisonment for not more than 2 years, or both. If a conviction of a person is for a violation committed after a first conviction of such person under this paragraph, punishment is a fine of not more than \$20,000 per day of violation, or by imprisonment of not more than 4 years, or both.

12. SIGNATORY REQUIREMENT [40 CFR 122.41(k)]

(1) All applications, reports, or information submitted to the Director shall be signed and certified. [See 40 CFR 122.22]

(2) The CWA provides that any person who knowingly makes any false statement, representation, or certification in any record or other document submitted or required to be maintained under this permit, including monitoring reports or reports of compliance or non-compliance shall, upon conviction, be punished by a fine of not more than \$10,000 per violation, or by imprisonment for not more than 6 months per violation, or by both.

13. REPORT REQUIREMENTS [40 CFR 122.41(l)]

(1) Planned changes. The permittee shall give notice to the Director as soon as possible of any planned physical alterations or additions to the permitted facility. Notice is required only when:

- (i) The alteration or addition to a permitted facility may meet one of the criteria for determining whether a facility is a new source in Sec. 122.29(b); or
- (ii) The alteration or addition could significantly change the nature or increase the quantity of pollutants discharged. This notification applies to pollutants which are subject neither to effluent limitations in the permit, nor to notification requirements under Sec. 122.42(a)(1).
- (iii) The alteration or addition results in a significant change in the permittee's sludge use or disposal practices, and such alteration, addition, or change may justify the application of permit conditions that are different from or absent in the existing permit, including notification of additional use or disposal sites not reported during the permit application process or not reported pursuant to an approved land application plan;

(2) Anticipated noncompliance. The permittee shall give advance notice to the Director of any planned changes in the permitted facility or activity which may result in noncompliance with permit requirements.

(3) Transfers. This permit is not transferable to any person except after notice to the Director. The Director may require modification or revocation and reissuance of the permit to change the name of the permittee and incorporate such other requirements as may be necessary under the Clean Water Act. (See Sec. 122.61; in some cases, modification or revocation and reissuance is mandatory.)

(4) Monitoring reports. Monitoring results shall be reported at the intervals specified elsewhere in this permit.

(i) Monitoring results must be reported on a Discharge Monitoring Report (DMR) or forms provided or specified by the Director for reporting results of monitoring of sludge use or disposal practices.

(ii) If the permittee monitors any pollutant more frequently than required by the permit using test procedures approved under 40 CFR part 136 or, in the case of sludge use or disposal, approved under 40 CFR part 136 unless otherwise specified in 40 CFR part 503, or as specified in the permit, the results of this monitoring shall be included in the calculation and reporting of the data submitted in the DMR or sludge reporting form specified by the Director.

(iii) Calculations for all limitations which require averaging of measurements shall utilize an arithmetic mean unless otherwise specified by the Director in the permit.

(5) Compliance schedules. Reports of compliance or noncompliance with, or any progress reports on, interim and final requirements contained in any compliance schedule of this permit shall be submitted no later than 14 days following each schedule date.

(6) Twenty-four hour reporting.

(i) The permittee shall report any noncompliance which may endanger health or the environment.

Any information shall be provided orally within 24 hours from the time the permittee becomes aware of the circumstances. A written submission shall also be provided within 5 days of the time the permittee becomes aware of the circumstances. The written submission shall contain a description of the noncompliance and its cause; the period of noncompliance, including exact dates and times, and if the noncompliance has not been corrected, the anticipated time it is expected to continue; and steps taken or planned to reduce, eliminate, and prevent reoccurrence of the noncompliance.

(ii) The following shall be included as information which must be reported within 24 hours under this paragraph.

(a) Any unanticipated bypass which exceeds any effluent limitation in the permit. (See Sec. 122.41(g).)

(b) Any upset which exceeds any effluent limitation in the permit.

(c) Violation of a maximum daily discharge limitation for any of the pollutants listed by the Director in the permit to be reported within 24 hours. (See Sec. 122.44(g).)

(iii) The Director may waive the written report on a case-by-case basis for reports under paragraph (1)(6)(ii) of this section if the oral report has been received within 24 hours.

(7) Other noncompliance. The permittee shall report all instances of noncompliance not reported under paragraphs (1) (4), (5), and (6) of this section, at the time monitoring reports are submitted. The reports shall contain the information listed in paragraph (1)(6) of this section.

(8) Other information. Where the permittee becomes aware that it failed to submit any relevant facts in a permit application, or submitted incorrect information in a permit application or in any report to the Director, it shall promptly submit such facts or information.

14. BYPASS [40 CFR 122.41(m)]

(1) Definitions.

(i) Bypass means the intentional diversion of waste streams from any portion of a treatment facility.

(ii) Severe property damage means substantial physical damage to property, damage to the treatment facilities which causes them to become inoperable, or substantial and permanent loss of natural resources which can reasonably be expected to occur in the absence of a bypass. Severe property damage does not mean economic loss caused by delays in production.

(2) Bypass not exceeding limitations. The permittee may allow any bypass to occur which does not cause effluent limitations to be exceeded, but only if it also is for essential maintenance to assure efficient operation. These bypasses are not subject to the provisions of paragraphs (m)(3) and (m)(4) of this section.

(3) Notice.

(i) Anticipated bypass. If the permittee knows in advance of the need for a bypass, it shall submit prior notice, if possible at least ten days before the date of the bypass.

(ii) Unanticipated bypass. The permittee shall submit notice of an unanticipated bypass as required in paragraph (l)(6) of this section (24-hour notice).

(4) Prohibition of bypass.

(i) Bypass is prohibited, and the Director may take enforcement action against a permittee for bypass, unless:

(a) Bypass was unavoidable to prevent loss of life, personal injury, or severe property damage;

(b) There were no feasible alternatives to the bypass, such as the use of auxiliary treatment facilities, retention of untreated wastes, or maintenance during normal periods of equipment downtime. This condition is not satisfied if adequate back-up equipment should have been installed in the exercise of reasonable engineering judgment to prevent a bypass which occurred during normal periods of equipment downtime or preventive maintenance; and

(c) The permittee submitted notices as required under paragraph (m) (3) of this section.

(ii) The Director may approve an anticipated bypass, after considering its adverse effects, if the Director determines that it will meet the three conditions listed above in paragraph (m)(4)(i) of this section.

15. UPSET [40 CFR 122.41(n)]

(1) Definition. Upset means an exceptional incident in which there is unintentional and temporary noncompliance with technology based permit effluent limitations because of factors beyond the reasonable control of the permittee. An upset does not include noncompliance to the extent caused by operational error, improperly designed treatment facilities, inadequate treatment facilities, lack of preventive maintenance, or careless or improper operation.

(2) Effect of an upset. An upset constitutes an affirmative defense to an action brought for noncompliance with such technology based permit effluent limitations if the requirements of paragraph(n)(3) of this section are met. No determination made during administrative review of claims that noncompliance was caused by upset, and before an action for noncompliance, is final administrative action subject to judicial review.

(3) Conditions necessary for a demonstration of upset. A permittee who wishes to establish the affirmative defense of upset shall demonstrate, through properly signed, contemporaneous operating logs, or other relevant evidence that:

- (i) An upset occurred and that the permittee can identify the cause(s) of the upset;
- (ii) The permitted facility was at the time being properly operated; and
- (iii) The permittee submitted notice of the upset as required in paragraph (1)(6)(ii)(b) of this section (24 hour notice).
- (iv) The permittee complied with any remedial measures required under paragraph (d) of this section.

(4) Burden of proof. In any enforcement proceeding the permittee seeking to establish the occurrence of an upset has the burden of proof.

16. EXISTING MANUFACTURING, COMMERCIAL, MINING, AND SILVICULTURAL DISCHARGERS [40 CFR 122.42(a)]

In addition to the reporting requirements under Sec. 122.41(1), all existing manufacturing, commercial, mining, and silvicultural dischargers must notify the Director as soon as they know or have reason to believe:

(1) That any activity has occurred or will occur which would result in the discharge, on a routine or frequent basis, of any toxic pollutant which is not limited in the permit, if that discharge will exceed the highest of the following "notification levels":

- (i) One hundred micrograms per liter (100 µg/l);
- (ii) Two hundred micrograms per liter (200 µg/l) for acrolein and acrylonitrile; five hundred micrograms per liter (500 µg/l) for 2,4-dinitrophenol and for 2-methyl-4,6-dinitrophenol; and one milligram per liter (1 mg/l) for antimony;
- (iii) Five (5) times the maximum concentration value reported for that pollutant in the permit application in accordance with Sec. 122.21(g) (7); or

- (iv) The level established by the Director in accordance with Sec. 122.44(f).
- (2) That any activity has occurred or will occur which would result in any discharge, on a non-routine or infrequent basis, of a toxic pollutant which is not limited in the permit, if that discharge will exceed the highest of the following "notification levels":
- (i) Five hundred micrograms per liter (500 µg/l);
 - (ii) One milligram per liter (1 mg/l) for antimony;
 - (iii) Ten (10) times the maximum concentration value reported for that pollutant in the permit application in accordance with Sec. 122.21(g)(7).
 - (iv) The level established by the Director in accordance with Sec. 122.44(f).

17. PUBLICLY OWNED TREATMENT WORKS [40 CFR 122.42(b)]

This section applies only to publicly owned treatment works (POTWs) as defined at 40 CFR 122.22.

All POTWs must provide adequate notice to the Director of the following:

- (1) Any new introduction of pollutants into the POTW from an indirect discharger which would be subject to section 301 or 306 of CWA if it were directly discharging those pollutants; and
- (2) Any substantial change in the volume or character of pollutants being introduced into that POTW by a source introducing pollutants into the POTW at the time of issuance of the permit.
- (3) For purposes of this paragraph, adequate notice shall include information on (i) the quality and quantity of effluent introduced into the POTW, and (ii) any anticipated impact of the change on the quantity or quality of effluent to be discharged from the POTW.

[The following condition has been established by Region IX to enforce applicable requirements of the Resource Conservation and Recovery Act] Publicly owned treatment works may not receive hazardous waste by truck, rail, or dedicated pipe except as provided under 40 CFR 270. Hazardous wastes are defined at 40 CFR 261.31 - 261.33. The Domestic Sewage Exclusion (40 CFR 261.4) applies only to wastes mixed with domestic sewage in a sewer leading to a publicly owned treatment works and not to mixtures of hazardous wastes and sewage or septage delivered to the treatment plant by truck.

Municipal separate storm sewer systems. The operator of a large or medium municipal separate storm sewer system or a municipal separate storm sewer that has been designated by the Director under Sec. 122.26(a)(1)(v) of this part must submit an annual report by the anniversary of the date of the issuance of the permit for such system. The report shall include:

- (1) The status of implementing the components of the storm water management program that are established as permit conditions;

- (2) Proposed changes to the storm water management programs that are established as permit condition. Such proposed changes shall be consistent with Sec. 122.26(d)(2)(iii) of this part; and
 - (3) Revisions, if necessary, to the assessment of controls and the fiscal analysis reported in the permit application under Sec. 122.26(d)(2)(iv) and (d)(2)(v) of this part;
 - (4) A summary of data, including monitoring data, that is accumulated throughout the reporting year;
 - (5) Annual expenditures and budget for year following each annual report;
 - (6) A summary describing the number and nature of enforcement actions, inspections, and public education programs; and
 - (7) Identification of water quality improvements or degradation.
- Storm water discharges. The initial permits for discharges composed entirely of storm water issued pursuant to Sec. 122.26(e)(7) of this part shall require compliance with the conditions of the permit as expeditiously as practicable, but in no event later than three years after the date of issuance of the permit.

18. REOPENER CLAUSE [40 CFR 122.44(c)]

For any permit issued to a treatment works treating domestic sewage (including "sludge-only facilities"), the Director shall include a reopener clause to incorporate any applicable standard for sewage sludge use or disposal promulgated under section 405(d) of the CWA. The Director may promptly modify or revoke and reissue any permit containing the reopener clause required by this paragraph if the standard for sewage sludge use or disposal is more stringent than any requirements for sludge use or disposal in the permit, or controls a pollutant or practice not limited in the permit.

19. PRIVATELY OWNED TREATMENT WORKS [40 CFR 122.44(m)]

For a privately owned treatment works, any conditions expressly applicable to any user, as a limited co-permittee, that may be necessary in the permit issued to the treatment works to ensure compliance with applicable requirements under this part. Alternatively, the Director may issue separate permits to the treatment works and to its users, or may require a separate permit application from any user. The Director's decision to issue a permit with no conditions applicable to any user, to impose conditions on one or more users, to issue separate permits, or to require separate applications, and the basis for that decision, shall be stated in the fact sheet for the draft permit for the treatment works.

20. TRANSFERS BY MODIFICATION [40 CFR 122.61(a)]

Except as provided in paragraph (b) of this section, a permit may be transferred by the permittee to a new owner or operator only if the permit has been modified or revoked and reissued (under

Sec. 122.62 (b)(2)), or a minor modification made (under Sec.122.63(d)), to identify the new permittee and incorporate such other requirements as may be necessary under CWA.

21. AUTOMATIC TRANSFERS [40 CFR 122.61(b)]

As an alternative to transfers under paragraph (a) of this section, any NPDES permit may be automatically transferred to a new permittee if:

- (1) The current permittee notifies the Director at least 30 days in advance of the proposed transfer date in paragraph (b)(2) of this section;
- (2) The notice includes a written agreement between the existing and new permittees containing a specific date for transfer of permit responsibility, coverage, and liability between them; and
- (3) The Director does not notify the existing permittee and the proposed new permittee of his or her intent to modify or revoke and reissue the permit. A modification under this subparagraph may also be a minor modification under Sec. 122.63. If this notice is not received, the transfer is effective on the date specified in the agreement mentioned in paragraph (b)(2) of this section.

22. MINOR MODIFICATIONS OF PERMITS [40 CFR 122.63]

Upon the consent of the permittee, the Director may modify a permit to make the corrections or allowances for changes in the permitted activity listed in this section, without following the procedures of part 124. Any permit modification not processed as a minor modification under this section must be made for cause and with part 124 draft permit and public notice as required in Sec. 122.62. Minor modifications may only:

- (1) Correct typographical errors;
- (2) Require more frequent monitoring or reporting by the permittee;
- (3) Change an interim compliance date in a schedule of compliance, provided the new date is not more than 120 days after the date specified in the existing permit and does not interfere with attainment of the final compliance date requirement; or
- (4) Allow for a change in ownership or operational control of a facility where the Director determines that no other change in the permit is necessary, provided that a written agreement containing a specific date for transfer of permit responsibility, coverage, and liability between the current and new permittees has been submitted to the Director.
- (5) Change the construction schedule for a discharger which is a new source. No such change shall affect a discharger's obligation to have all pollution control equipment installed and in operation prior to discharge under Sec. 122.29.

(6) Delete a point source outfall when the discharge from that outfall is terminated and does not result in discharge of pollutants from other outfalls except in accordance with permit limits.

(7) [Reserved]

(8) Incorporate conditions of a POTW pretreatment program that has been approved in accordance with the procedures in 40 CFR 403.11 (or a modification thereto that has been approved in accordance with the procedures in 40 CFR 403.18) as enforceable conditions of the POTW's permits.

23. TERMINATION OF PERMITS [40 CFR 122.64]

The following are causes for terminating a permit during its term, or for denying a permit renewal application:

- (1) Noncompliance by the permittee with any condition of the permit;
- (2) The permittee's failure in the application or during the permit issuance process to disclose fully all relevant facts, or the permittee's misrepresentation of any relevant facts at any time;
- (3) A determination that the permitted activity endangers human health or the environment and can only be regulated to acceptable levels by permit modification or termination; or
- (4) A change in any condition that requires either a temporary or permanent reduction or elimination of any discharge or sludge use or disposal practice controlled by the permit (for example, plant closure or termination of discharge by connection to a POTW).

24. AVAILABILITY OF REPORTS [Pursuant to Clean Water Act Section 308]

Except for data determined to be confidential under 40 CFR Part 2, all reports prepared in accordance with the terms of this permit shall be available for public inspection at the offices of the Regional Administrator. As required by the Act, permit applications, permits, and effluent data shall not be considered confidential.

25. REMOVED SUBSTANCES [Pursuant to Clean Water Act Section 301]

Solids, sludges, filter backwash, or other pollutants removed in the course of treatment or control of wastewaters shall be disposed of in a manner such as to prevent any pollutant from such materials from entering navigable waters.

26. SEVERABILITY [Pursuant to Clean Water Act Section 512]

The provisions of this permit are severable, and if any provision of this permit, or the application of any provision of this permit to any circumstance, is held invalid, the application of such provision to other circumstances, and remainder of the permit, shall not be affected thereby.

27. CIVIL AND CRIMINAL LIABILITY [Pursuant to Clean Water Act Section 309]

Except as provided in permit conditions on "Bypass" (Section 14) and "Upset" (Section 15), nothing in this permit shall be construed to relieve the permittee from civil or criminal penalties for noncompliance.

28. OIL AND HAZARDOUS SUBSTANCE LIABILITY [Pursuant to Clean Water Act Section 311]

Nothing in this permit shall be construed to preclude the institution of any legal action or relieve the permittee from any responsibilities, liabilities, or penalties to which the permittee is or may be subject under Section 311 of the Clean Water Act.

29. STATE OR TRIBAL LAW [Pursuant to Clean Water Act Section 510]

Nothing in this permit shall be construed to preclude the institution of any legal action or relieve the operator from any responsibilities, liabilities, or penalties established pursuant to any applicable State or Tribal law or regulation under authority preserved by Section 510 of the Clean Water Act.

Permit No. AS0000027

AUTHORIZATION TO DISCHARGE UNDER THE
POLLUTANT DISCHARGE ELIMINATION SYSTEM

In compliance with the provision of the Federal Water Pollution Control Act, as amended
(33 U.S.C. 1251 et seq.; the "Act"),

COS Samoa Packing Company, Inc.
P.O. Box 957
Pago Pago, Tutuila
American Samoa 96799

is authorized to discharge tuna processing wastewater from the cannery located at Pago Pago,
American Samoa from outfall Discharge Serial No. 001:

Latitude:	14 deg.	17 min.	01 sec.	S
Longitude:	170 deg.	40 min.	02 sec.	W


to receiving waters named: Pago Pago Harbor in accordance with the effluent limitations,
monitoring requirements, and other conditions set forth in Sections A through G hereof.

This permit shall become effective on January 23, 2001.

This permit and the authorization to discharge shall expire at midnight, January 23, 2001.

Signed this 21st day of December, 2000.

For the Regional Administrator


Alexis Strauss, Director
Water Division

A. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS

1. During the period beginning with the effective date of this permit and lasting through the expiration date of this permit, the permittee is authorized to discharge from Outfall 001.

The effluent shall be sampled prior to its commingling with the effluent from the other cannery.

Such discharge shall be limited and monitored by the permittee as specified below:⁽¹⁾

Effluent Characteristics	Discharge Limitations		Monitoring Requirements	
	30-Day Average	Daily Maximum	Measurement Frequency	Sample Type
Flow (MGD)	--	1.40	Continuous	Recorder
Biochemical Oxygen Demand (5-day)	⁽⁵⁾	⁽⁵⁾	Once/Month	Composite
Suspended Solids (lbs/day)	2376	5976	Once/Week	Composite
Oil and Grease (lbs/day)	605	1512	Once/Week	Grab ⁽²⁾
Total Phosphorus (lbs/day)	208	271	One Set/Month ⁽³⁾	Composite
Total Nitrogen (lbs/day)	800	1935	One Set/Month ⁽³⁾	Composite
Acute Toxicity	--	⁽⁴⁾	Once/6 Months	Composite
Total Ammonia (mg/l)	--	133	Once/Week	Composite
Temperature (°F)	90	95	Continuous	Continuous
Total Copper (ug/l)	66	108	Once/Month	Composite
Total Zinc (ug/l)	1545	1770	Once/Month	Composite
pH	--	⁽⁶⁾	Continuous	Continuous

Notes:

- (1) Where discharge monitoring data is reported as “below detection limit,” both the detection limit obtained and the analytical method used shall be included on the monthly discharge monitoring report (DMR).
- (2) Each oil and grease sample shall consist of four individual grab samples (“sub-samples”) which shall be taken at even intervals during each production period in which samples are taken. Each sub-sample shall be separately analyzed and the mean value of the four sub-samples shall be reported for daily maximum and monthly average.
- (3) Permittee is required to monitor monthly. Each month permittee shall sample twice in a single week on production days. Should the permittee wish to monitor the effluent on a non-production day(s), the permittee must monitor for the six consecutive days following the non-production day on which the first sample was taken. The average of all samples taken during that month will determine compliance with the “monthly average.”

Should the canneries consistently comply with their TN and TP limitations and should the monitoring data show that the discharge is not impacting the water quality in the harbor or causing water quality violations for one year, the permit may be modified to incorporate a “weighted average” method of measuring compliance with the limitations. The numerical limitations themselves shall not be made any less stringent.
- (4) See Section D “Toxicity” for monitoring requirements.
- (5) No limit set at this time. Monitoring and reporting only.
- (6) The pH is limited between 6.5 and 8.6 standard units. The total time during which the pH values are outside the required range of pH values shall not exceed 7 hours and 26 minutes in any calendar month; and no individual excursions from the range of pH values shall exceed 60 minutes.

B. DISCHARGE SPECIFICATIONS

Samples taken at monitoring stations 8, 8A, 14, 15, 16, and 18 in the receiving water shall not reveal* any of the following in accordance with American Samoa Water Quality Standards:

1. Chlorophyll a levels in excess of 1.0 ug/l;
2. Light penetration depth less than 65 feet;
3. Objectionable color, odor, or taste, either alone or in combinations, or in the biota;
4. Visible floating materials, grease, oil, scum, foam, and other floating material; and,
5. Materials that will produce visible turbidity or settle to form objectionable deposits.

Samples taken at monitoring stations 8, 8A, 15, 16, and 18 in the receiving water (those stations outside the zone of initial dilution [ZID]) shall not reveal* any of the following in accordance with American Samoa Water Quality Standards:

1. Dissolved oxygen (DO) concentration less than 5.0 mg/l or 70% saturation;
2. Turbidity in excess of 0.75 nephelometric turbidity units; and
3. Toxicity to aquatic life.

Samples taken at monitoring stations 15, 16, and 18 in the receiving water (those stations outside the zone of mixing [ZOM]) shall not reveal* any of the following in accordance with the American Samoa Water Quality Standards:

1. A temperature more than 1.5 degrees Fahrenheit from conditions that would occur naturally;
2. A level of total nitrogen in excess of 200 ug/l; and
3. A level of total phosphorous in excess of 30 ug/l.

*Should any samples of ambient water reveal exceedances of the standards specified above and should ASEPA and/or USEPA determine that the canneries' discharge is the cause of the exceedance, the canneries may be required to undertake various actions including ceasing discharge and/or additional studies or monitoring to determine the cause of the exceedance. Violations of water quality standards shall be determined in accordance with American Samoa Water Quality Standards.

C. PROTECTED AND PROHIBITED USES

1. The protected uses of Pago Pago Harbor are as follows:

- a. Recreational and subsistence fishing;
- b. Boat-launching ramps and designated mooring areas;
- c. Subsistence food gathering, e.g. shellfish harvesting;
- d. Aesthetic enjoyment;
- e. Whole and limited body-contact recreation, e.g. swimming, snorkeling, surfing, and scuba diving;
- f. Support and propagation of marine life;
- g. Industrial water supply;
- h. Mari-culture development;
- i. Normal harbor activities; e.g. ship movements, docking, loading and unloading, marine railways and floating drydocks; and
- j. Scientific investigation.

2. Prohibited uses include but are not limited to:

- a. Dumping or discharge of solid waste;
- b. Animal pens over or adjacent to any shoreline;
- c. Dredging and filling activities, except when permitted by the American Samoa Environmental Quality Commission (ASEQC) in accordance with the Environmental Quality Act (Title 24, American Samoa Code);
- d. Hazardous and radioactive waste discharges;
- e. Discharge of oil sludge, oil refuse, fuel oil, or bilge water, or any other wastewater from any vessel or unpermitted shoreside facility.

The permittee shall not engage in any of the above prohibited uses nor in any uses that would conflict with the protected uses of the harbor.

D. TOXICITY

1. Proposed Effluent Biomonitoring

Beginning within 180 days after the effective date of this permit, the permittee shall conduct, or have a contract laboratory conduct, semi-annual 96-hour static renewal acute bioassays on composite effluent samples according to the methods described in Methods for Measuring the Acute Toxicity of Effluents to Freshwater and Marine Organisms (EPA/600/4-90/027F), August 1993 using the white shrimp, *Penaeus vannamei* postlarvae. In the event that *Penaeus vannamei* are

not available for testing, *Mysidopsis bahia* may be used. Every reasonable effort shall be made to ship the samples to the testing laboratory in a manner to meet holding times and maintain sample temperature at 4C. Tests shall be conducted using a ≤ 0.5 dilution series (i.e., 100%, 25%, 12.5%, 6.25%, 3.13%, 1.56%).

Use probit analysis to calculate the LC50 and 95% confidence intervals. Use Analysis of Variance and Dunnett's multiple comparison test to calculate the No Observed Effect Concentrations (NOEC). These results will be reported on the permittee's Discharge Monitoring Report (DMRs).

Each cannery may conduct the tests individually or may conduct a test using a single combined flow weighted composite effluent. However, ASEPA or USEPA may require additional individual bioassay tests for each cannery after review of combined composite effluent tests.

2. Priority Pollutant Scan

The permittee shall conduct at least one priority pollutant scan of the effluent. This test shall be conducted prior to the application for renewal of the permit. The results shall be submitted to the USEPA and ASEPA prior to application for renewal of the permit. If the toxicity tests indicate that the discharge causes, has a reasonable potential to cause, or contributes to non-compliance with American Samoa Water Quality Standards, then ASEPA and/or USEPA may require full or partial priority pollutant scans be conducted concurrent with the required semi-annual bioassay tests.

3. Toxicity Reopener

Should any of the monitoring indicate that the discharge causes, has reasonable potential to cause, or contributes to an excursion above a water quality criteria, the permit may be reopened for the imposition of water quality-based limits and/or whole effluent toxicity limits. Also, this permit may be modified, in accordance with the requirements set forth at 40 CFR 122.44 and 124.14, to include appropriate conditions or limits to address demonstrated effluent toxicity, or to implement any EPA-approved new state water quality standards or testing methods applicable to effluent toxicity.

E. RECEIVING WATER QUALITY MONITORING PROGRAM

To determine compliance with water quality standards, the receiving water quality monitoring program must document water quality at the outfall, at areas near the zone of initial dilution (ZID) and zone of mixing (ZOM) boundaries, at areas beyond these zones where discharge impacts might reasonably be expected, and at reference control areas. The canneries (StarKist Samoa and COS Samoa Packing) shall cooperatively perform, or cause to be performed, water quality monitoring at the specified stations at regular frequencies as detailed below.

Should any monitoring or studies reveal, in the judgement of either ASEPA or USEPA, that the water quality, coral reef, or overall biological health of the harbor is being impaired as a result of the joint cannery outfall discharge, either agency may at any time prohibit further discharge and/or require additional monitoring.

All water quality samples should be collected and processed according to the protocols found in the most recent edition of USEPA's guidance document entitled, Quality Assurance and Quality Control (QA/QC) for 301(h) Monitoring Programs: Guidance on Field and Laboratory Methods (EPA, 1987a, or the most recent edition). Monitoring reports shall be submitted to ASEPA and USEPA on a semi-annual basis.

Monitoring stations shall be designated and located as shown below (also see Figure 1):

Station	Vicinity	Location	Latitude	Longitude
5	Transition Zone	Harbor Mouth	14 17.713' S	170 39.733' W
8	Middle Harbor	Inside ZOM	14 16.843' S	170 40.098' W
8A	Middle Harbor	Inside ZOM	14 16.826' S	170 40.150' W
11	Inner Harbor	East End	14 16.480' S	170 40.947' W
13	Inner Harbor	West End	14 16.304' S	170 41.841' W
14	Middle Harbor	Diffuser	14 16.911' S	170 40.065' W
15	Middle Harbor	ZOM Edge	14 16.584' S	170 40.116' W
16	Middle Harbor	ZOM Edge	14 16.891' S	170 40.354' W
18	Outer Harbor	ZOM Edge	14 16.092' S	170 40.041' W

Note: Latitude and longitude and based on recorded GPS using the WGS coordinate system as employed in previous Receiving Water Quality Monitoring Reports, Pago Pago Harbor, American Samoa, 1995-1997.

It is recommended that the stations be located using the sextant angle resection positioning method or a positioning system that affords an equivalent degree of accuracy and precision. Other means may be used if, in the judgement of ASEPA and EPA Region

9, they are of sufficient accuracy and precision to allow reoccupation of the stations within plus or minus six (6) meters.

Monitoring shall be done semi-annually during the two predominant oceanographic season described as the tradewind and non-tradewind season. One sampling event should be done in the months of February through April and the other sampling event should be done in the months of August through October. Reports will be submitted to ASEPA and USEPA within 60 days of receipt of laboratory results.

Temperature, dissolved oxygen (DO), pH, conductivity, and turbidity shall be measured as continuous vertical profiles at each station. Salinity shall be calculated from temperature and conductivity. In the event of malfunctions of the sensors used to measure the continuous vertical profile parameters, direct measurement of grab samples, in the field, will be acceptable. Light penetration shall be measured at all stations by measurement of sechi depth. All other required parameters shall be measured in grab samples taken at one (1) meter below the surface, mid-depth, and one meter above the bottom. In locations where the depth is greater than 40 meters, samples shall be taken at one meter below the surface, 20 meters, and 40 meters.

The following parameters shall constitute the Water Quality Monitoring Program:

Parameter	Units	Stations	Sample Type
Temperature	F	5,8,18,14,15,16,8A,11,13	Vertical Profile
Salinity	PSU	5,8,18,14,15,16,8A,11,13	Vertical Profile
pH	SU	5,8,18,14,15,16,8A,11,13	Vertical Profile
Dissolved Oxygen	mg/l and %Sat	5,8,18,14,15,16,8A,11,13	Vertical Profile
Turbidity	NTU	5,8,18,14,15,16,8A,11,13	Vertical Profile
Turbidity	NTU	18, 14, 15, 16	Grab
Light Penetration	feet	5,8,18,14,15,16,8A,11,13	Direct Reading
Suspended Solids	mg/l	5,8,18,14,15,16,8A,11,13	Grab
Chlorophyll-a	mg/l	5,8,18,14,15,16,8A,11,13	Grab
Total Ammonia	mg/l	5,8,18,14,15,16,8A,11,13	Grab
Total Nitrogen	mg/l	5,8,18,14,15,16,8A,11,13	Grab
Total Phosphorous	mg/l	5,8,18,14,15,16,8A,11,13	Grab
Copper	mg/l	5, 8, 8A,11,13,14,15	Grab
Zinc	mg/l	5, 8, 8A,11,13,14,15	Grab
Lead	mg/l	5,11,13,14	Grab
Mercury	mg/l	5,11,13,14	Grab
Arsenic	mg/l	5,11,13,14	Grab

The water quality analyses shall be expanded for one of the water quality monitoring events during the first year of the permit as described in Section H below.

F. SEDIMENT MONITORING

Sediment monitoring is conducted to determine the character of the sediments in relation to long-term high nutrient discharge by the permittee in the harbor and to determine if the harbor recovery will be affected by resuspension of the nutrients.

The canneries (StarKist Samoa and COS Samoa Packing) shall cooperatively perform a sediment monitoring program in Pago Pago Harbor in order to assess the concentration of nutrient and organic components, the distribution of stored nutrients, the size of the nutrient reservoir, and the rate of accumulation of nutrients. Seven sites shall be located within Pago Pago Harbor and analyzed for total nitrogen, total phosphorous, percent organics, percent solids, volatile solids, grain size distribution, oxidation-reduction potential, sulfides, copper, zinc, lead, mercury, and arsenic. Three sites shall be located in inner Pago Pago Harbor and four sites shall be located in the middle and outer portion of the harbor.

Monitoring stations shall be designated and located as shown below (see Figures 2):

Station	Vicinity	Location	Latitude	Longitude
IH1	Inner Harbor	Between old outfalls	14 16.626' S	170 41.146' W
IH2	Inner Harbor	Offshore of old outfalls	14 16.708' S	170 41.146' W
IH3	Inner Harbor	Off Pago Pago stream	14 16.655' S	170 41.854' W
OH1	Outer Harbor	400' NNW of outfall	14 17.076' S	170 40.100' W
OH2	Outer Harbor	400' SSE of outfall	14 17.186' S	170 40.025' W
OH3	Outer Harbor	Utulei outfall	14 17.243' S	140 40.425' W
OH4	Outer Harbor	Reference	14 17.537' S	170 40.067' W

Note: Latitude and longitude based on recorded GPS using the WGS coordinate system as employed in previous Sediment Monitoring Reports, Pago Pago American Samoa, 1993-1997.

The sites and study methods shall be the same as described in the previously approved study plan for the sediment monitoring conducted during 1993-1997. The sampling shall be conducted twice: once during the first year of the permit and once during the fourth year of the permit. A report of the sediment monitoring program shall be submitted to ASEPA and USEPA within 90 days after completion of the sampling.

The following parameters shall constitute the Sediment Monitoring Program:

Parameter	Units	Stations	Sample Type
Total Nitrogen (TKN)	mg/kg (dry)	All	Grab
Total Phosphorous	mg/kg (dry)	All	Grab
Total Sulfides	mg/kg (dry)	All	Grab
Redox Potential	mV	All	Grab ¹
Total Organic Carbon	%	All	Grab
Percent Solids	%	All	Grab
Total Volatile Solids	%	All	Grab
Grain Size	mm (distribution)	All	Grab
Copper	mg/kg	All	Grab
Zinc	mg/kg	All	Grab
Lead	mg/kg	All	Grab
Mercury	mg/kg	All	Grab
Arsenic	mg/kg	All	Grab

¹ Measured in the field when sample is acquired

The first sediment monitoring event shall be expanded during the first year of the permit as described in Section H below. If possible, the sediment sampling event conducted in conjunction with the fish tissue study will include core samples at the inner harbor stations. The canneries shall make a reasonable attempt to collect core samples and, if successful, analysis shall be done using material from two levels in the cores (or at the lower level from the core and a surficial grab sample).

G. CORAL REEF SURVEY

The canneries (StarKist Samoa and COS Samoa Packing) shall cooperatively continue the coral reef survey based on the previously approved study plan for the monitoring conducted during 1993-1997 with the modifications described below. The purpose of the study is to assess the potential impacts of the discharge on the nearby coral reef. The intent of the survey is to detect significant differences, if any, from the previous surveys. VCR formatted video copies and a report of results shall be submitted to the ASEPA and USEPA with reports within 120 days of the survey.

The survey will be done twice during the permit period, once in year two of the permit and once in year 5 of the permit. These surveys will include a subset of the previous

transect locations. Transect locations to be surveyed are MH-1, MH-4, OH-5, and OH-1 (see Figure 3). After reviewing the results of the first survey, ASEPA and USEPA may require different or additional transects during the second survey and/or additional surveys.

H. FISH TISSUE STUDY

The canneries (COS Samoa Packing and StarKist Samoa) shall cooperatively perform a study during the first year of the permit that addresses the levels of selected parameters in the tissues of resident organisms in the Harbor. The study will be done concurrently with receiving water quality monitoring (Section E) and sediment monitoring (Section F) sampling. The water quality and sediment monitoring studies shall be expanded, for the sampling done in conjunction with the fish study, to include selected additional stations and parameters. The intent of the study is to assess the potential sources and levels of these substances and is a follow-up study to previous monitoring performed by ASEPA.

Within 120 days of the effective date of the permit, the canneries shall submit a study plan to ASEPA and USEPA-Region 9 for comment and approval. The study shall include the following elements:

1. Whole fish tissue analysis of mullet, mackerel, and crab (or acceptable substitute organisms) for lead, arsenic, mercury, PCBs (Aroclor 1260), selected pesticides (DDT, DDE, DDD), and dioxin. Analysis of dioxin will be required in only one composite sample of species collected from the inner harbor.
2. The study shall primarily address organisms captured in the harbor. Detailed station locations and parameters to be analyzed shall be described in the study plan. The following stations (See Figure 4) and parameters should be included in the study:

Parameter	Inner Harbor			Reference		
	Mullet Composite	Mackerel Composite	Crab Composite	Mullet Composite	Mackerel Composite	Crab Composite
Lead	X	X	X	X	X	X
Arsenic	X	X	X	X	X	X
Mercury	X	X	X	X	X	X
PCBs	X	X	X	X	X	X
Pesticides	X	X	X	X	X	X
Dioxin		X				

Notes: The inner harbor is that area described as shoreward of a line extending from Goat Island Point to the northern shoreline. The reference location shall be described in the study plan submitted within 120 days of the effective date of the permit.

3. The study shall include water quality samples for the same set of parameters (excluding dioxin, which will be considered for only one sample) at a minimum of six stations in the inner and middle harbor and a reference station. Detailed station locations and parameters to be analyzed will be described in the study plan. The following stations and parameters should be included in the study:

Parameter	Inner Harbor Stations				Middle Harbor Stations			Reference Station
	11	11A	12	13	8A	15	14	
Lead	X	X	X	X	X	X	X	X
Arsenic	X	X	X	X	X	X	X	X
Mercury	X	X	X	X	X	X	X	X
PCBs	X			X				X
Pesticides	X			X				X
Dioxin				X				

Note: All stations are previously occupied harbor water quality stations.

4. The study shall include sediment samples for the same set of parameters (excluding dioxin, except at one station) at a minimum of six stations in the inner harbor and a reference station. If possible, the sediment sampling will include core samples at the inner harbor stations. The canneries shall make a reasonable attempt to collect core samples and, if successful, analysis shall be done using material from two levels in the cores (or at the lower level from the core and a surficial grab sample). Detailed station locations and parameters to be analyzed shall be described in the study plan. The following stations (See Figure 4) and parameters should be included in the study:

Parameter	Inner Harbor Stations						Reference Station
	Total organic carbon, total solids, total volatile solids, and grain size distribution will be analyzed for all samples.						
	IH-1	IH-2	IH-3	4	FD	SWM	OH-4
Lead	X	X	X	X	X	X	X
Arsenic	X	X	X	X	X	X	X
Mercury	X	X	X	X	X	X	X
PCBs			X				X
Pesticides			X				X
Dioxin			X				

Notes: IH-1, IH-2, IH-3, and OH-4 are the previously occupied sediment quality stations.

Station 4 is the previously occupied station for the CH2M HILL water quality field measurements (1/1/91). Stations FD and SWM will be adjacent to the fuel dock and the boat repair facility, respectively.

5. The study plan shall include descriptions of sampling locations, sampling methods, analytical laboratories to be used, laboratory methods, detection levels, and A/QC procedures.
6. A report shall be prepared and submitted to ASEPA and USEPA within 90 days of receipt of laboratory results.

I. SEA TURTLE REVIEW

In conjunction with the fish tissue study, the canneries will retain a recognized expert to review the effluent chemistry and bioassay data to determine if there is any anticipated impact on sea turtles in Pago Pago Harbor. The canneries will provide a report of the findings to EPA and ASEPA concurrent with the fish tissue study report.

J. POLLUTION PREVENTION PROGRAM

The canneries shall maintain the pollution prevention program developed in the previous permit period. The canneries shall submit an annual report documenting the effectiveness of the program and improvements to it. A copy of this report shall be available onsite.

K. DEFINITIONS

1. "Ambient conditions" means the existing conditions in the surrounding waters not influenced by the discharger's effluent.
3. "Bypass" means the intentional diversion of waste streams from any portion of a treatment facility whose operation is necessary to maintain compliance with the terms and conditions of this permit.
4. "Whole-effluent toxicity" is the aggregate toxic effect of an effluent measured directly with a "toxicity test."
5. "Composite sample" means, for other than flow rate measurements, the arithmetic mean of no fewer than eight individual measurements taken at equal intervals for 24 hours or for the duration of the discharge, whichever is shorter.

"Composite sample" means, for other than flow rate measurement,

- a. A combination of at least eight individual portions of equal time intervals for 24 hours, or the duration of the discharge, whichever is shorter. The volume of each individual portion shall be directly proportional to the discharge flow rate at the time of sampling.

OR

- b. A combination of at least eight individual portions of equal volume obtained over

a 24-hour period. The time interval will vary such that the volume of wastewater discharged between samplings remains constant.

The compositing period shall equal the specified sampling period, or 24 hours, if no period is specified.

6. "Daily discharge" means:
 - a. For flow rate measurement, the average flow rate measured during a calendar day or during any 24-hour period reasonably representative of the calendar day for purposes of sampling.
 - b. For pollutant measurements, the concentration or mass emission rate measured during a calendar day or during any 24-hour period reasonably representative of the calendar day for purposes of sampling.
7. "Daily maximum" limit means the maximum acceptable "daily discharge." For pollutant measurements, unless otherwise specified, the results to be compared to the "daily maximum" limit are based on "composite samples."
8. "Duly authorized representative" is one whose:
 - a. Authorization is made in writing by a principal executive officer or ranking elected official;
 - b. Authorization specifies either an individual or a position having responsibility for the overall operation of the regulated facility or activity, such as the position of plant manager, operator of a well or a well field, superintendent, position of equivalent responsibility, or an individual or position having overall responsibility for environmental matters for the company. (A duly authorized representative may thus be either a named individual or any individual occupying a named position.); and
 - c. Written authorization is submitted to the ASEPA and EPA. If an authorization becomes no longer accurate because a different individual or position has responsibility for the overall operation of the facility, a new authorization satisfying the requirements must be submitted to ASEPA and EPA prior to or together with any reports, information, or other applications to be signed by an authorized representative.
8. "Grab sample" is defined as any individual sample collected in a short period of time not

exceeding 15 minutes. “Grab samples” shall be collected during normal peak loading conditions for the parameter of interest, which may or may not be during hydraulic peaks. It is used primarily in determining compliance with “daily maximum” limits.

9. “Hazardous substance” means any substance designated under 40 CFR 116 pursuant to Section 311 of the Clean Water Act.
10. “Heavy metals” are, for the purposes of this permit, arsenic, cadmium, chromium, copper, lead, mercury, nickel, silver, and zinc.
11. “Indirect discharger” means a non-domestic discharger introducing pollutants into a publicly owned treatment and disposal system.
12. “Initial dilution” is the process which results in the rapid and irreversible turbulent mixing of wastewater with ocean water around the point of discharge.

For a submerged buoyant discharge, characteristics of most municipal wastes that are released from the submarine outfalls, the momentum of the discharger and its initial buoyancy act together to produce turbulent mixing. Initial dilution in this case is completed when the diluting wastewater ceases to rise in the water column and first begins to spread horizontally.

Numerically, initial dilution is expressed as the ratio of the volume of discharged effluent plus ambient water entrained during the process of initial dilution to the volume of discharged effluent.

13. “Mass emission rate” is obtained from the following calculations for any calendar day:

$$\text{Mass emission rate (lb/day)} = 8.345/N \sum_{i=1}^N Q_i C_i$$

$$\text{Mass emission rate (kg/day)} = 3.785/N \sum_{i=1}^N Q_i C_i$$

in which ‘N’ is the number of samples analyzed in any calendar day. ‘Q_i’ and ‘C_i’ are the flow rate (MGD) and the concentration (mg/L), respectively, which are associated with each of the ‘N’ grab samples which may be taken in any calendar day. If a composite sample is taken, ‘C_i’ is the concentration measured in the composite sample and ‘Q_i’ is the average flow rate occurring during the period over which samples are

composited.

The daily concentration of all constituents shall be determined from the flow-weighted average of the same constituents in the combined waste stream as follows:

$$\text{Daily concentration} = 1/Q_t \sum_{i=1}^N Q_i C_i$$

in which 'N' is the number of component waste streams. 'Q_i' and 'C_i' are the flow rate (MGD) and the constituent concentration (mg/L), respectively, which are associated with each of the 'N' waste streams. 'Q_t' is the total flow rate of the combined waste streams.

14. "Monthly average" is the arithmetic mean of daily concentrations, or of daily "mass emission rates," over the specified monthly period:

$$\text{Average} = 1/N \sum_{i=1}^N X_i$$

in which 'N' is the number of days samples were analyzed during the period and 'X_i' is either the constituent concentration (mg/L) or mass emission rate (kg/day or lb/day) for each sampled day.

15. "100-year frequency flood" means a flood of unusually large magnitude and which is characterized by its infrequent occurrence.
16. "Open coastal waters" means marine waters bounded by 100 fathom (183 m; 600 ft) depth contour and the shoreline excluding bays named in section 24.0205 (e)(1)-(3) of the American Samoa water quality standards.
17. "Overflow" means the intentional or unintentional diversion of flow from the collection and transport systems, including the pumping facilities.
18. "Pesticides" are, for purposes of this permit, those six constituents referred to in 40 CFR 125.58 (m) (demeton, guthion, malathion, mirex, methoxychlor, and parathion).
19. "Pollutant-free wastewater" means infiltration and inflow, cooling waters, and condensates which are essentially free of pollutants.

20. "Priority pollutants" are those constituents referred to in 40 CFR 401.15 and listed in the EPA NPDES Application Form 2C, pp. V-3 through V-9.
21. "Severe property damage" means substantial physical damage to property, damage to the treatment facilities which causes them to become inoperable, or substantial and permanent loss of natural resources which can reasonably be expected to occur in the absence of a "bypass" or "overflow." It does not mean economic loss by delays in production.
22. "Sludge" means the solid, semi-liquid suspension of solids, residues, screenings, grit, scum, and precipitates separated from, or created in wastewater by the unit processes of a treatment system. It also includes, but is not limited to, all supernatant, filtrate, centrate, decantate, and thickener overflow/underflow in the solids handling parts of the wastewater treatment system.
23. "Toxic pollutant" means any pollutant listed as toxic under Section 307 (a) (1) of the Clean Water Act or under 40 CFR 122, Appendix D. Violation of the maximum daily discharge limitations are subject to the 24-hour reporting requirement (section P.13.f).
24. "Toxicity test" is the means to determine the toxicity of a chemical or an effluent using living organisms. A toxicity test measures the degree of response of an exposed test organism to a specific chemical or effluent.
25. "Toxic unit chronic" is the reciprocal of the effluent dilution that causes no unacceptable effect on the test organisms by the end of the chronic exposure period.
26. "Upset" means any exceptional incident in which there is unintentional and temporary noncompliance with effluent limitations in the permit because of factors beyond the reasonable control of the discharger. It does not include noncompliance caused by operational error, improperly designed treatment facilities, inadequate treatment facilities, lack of preventive maintenance, careless or improper operation, or those problems the discharger should have foreseen.
27. "Waste", waste discharge", "discharge of waste", and "discharge" are used interchangeably in this permit. The requirements of this permit are applicable to the entire volume of water, and the material therein, which is disposed of to marine waters.

28. "Weekly average" is the arithmetic mean of daily concentrations, or of daily mass emission rates, over the specified weekly period:

$$\text{Average} = \frac{1}{N} \sum_{i=1}^N X_i$$

in which 'N' is the number of days samples were analyzed during the period and "Xi" is either the constituent concentration (mg/L) or the "mass emission rate" (kg/day or lb/day) for each sampled day.

29. "Zone of initial dilution" (ZID) means the region of initial mixing surrounding or adjacent to the end of the outfall pipe or diffuser ports, providing that the ZID may not be larger than allowed by mixing zone restrictions in applicable water quality standards [40 CFR 125.58 (W)]. For purposes of designating monitoring stations, the region within a horizontal distance equal to a specified water depth (usually depth of outfall or average depth of diffuser) from any point of the diffuser or end of the outfall and the water column above and below that region, including the underlying seabed.
30. "Zone of mixing" (ZOM) means limited areas around outfalls and other facilities approved by ASEQC with the concurrence of EPA to allow for the initial dilution of waste discharges [American Samoa Water Quality Standards].

L. QUALITY ASSURANCE/QUALITY CONTROL

All waste material sampling procedures, analytical protocols, and quality assurance/quality control procedures shall be performed in accordance with guidelines specified by EPA. The following references shall be used by the permittee where appropriate:

1. EPA, 40 CFR 136, Guidelines Establishing Test Procedures for the Analysis of Pollutants Under the Clean Water Act;
2. Tetra Tech, Inc. 1985. Summary of the U.S. EPA-approved methods and other guidance for 301 (h) monitoring variables. Final program document prepared for the Marine Operations Division, Office of Marine and Estuarine Protection, U.S. Environmental Protection Agency. EPA Contract No. 68-01-693. Tetra Tech, Inc., Bellevue, WA; and
3. Tetra Tech, Inc. 1986. Quality assurance and quality control guidance for 301 (h) monitoring programs. Final program document prepared for the Marine Operations

Division, Office of Marine and Estuarine Protection, U.S. Environmental Protection Agency. EPA Contract No. 68-01-3968. Tetra Tech, Inc., Bellevue, WA.

M. REPORTING

Monitoring results obtained during the previous 3 months shall be summarized for each month and submitted quarterly on forms to be supplied by EPA, to the extent that the information reported may be entered on the forms. The results of all monitoring required by this permit shall be submitted in such a format as to allow direct comparison with the limitations and requirements of this permit. Monitoring reports shall be postmarked no later than the 28th day of the month following the completed reporting period. The first report is due 4 months after the effective date of this permit. Signed copies of these and all other reports required herein shall be submitted to the EPA and the Government of American Samoa at the following addresses:

Environmental Protection Agency - Region 9
Attn: Pacific Insular Area Programs (CMD-5)
75 Hawthorne Street
San Francisco, CA 94105

Director
American Samoa Environmental Protection Agency
Office of the Governor
Pago Pago, American Samoa 96799

N. EPA REGION IX STANDARD CONDITIONS

See attachment.

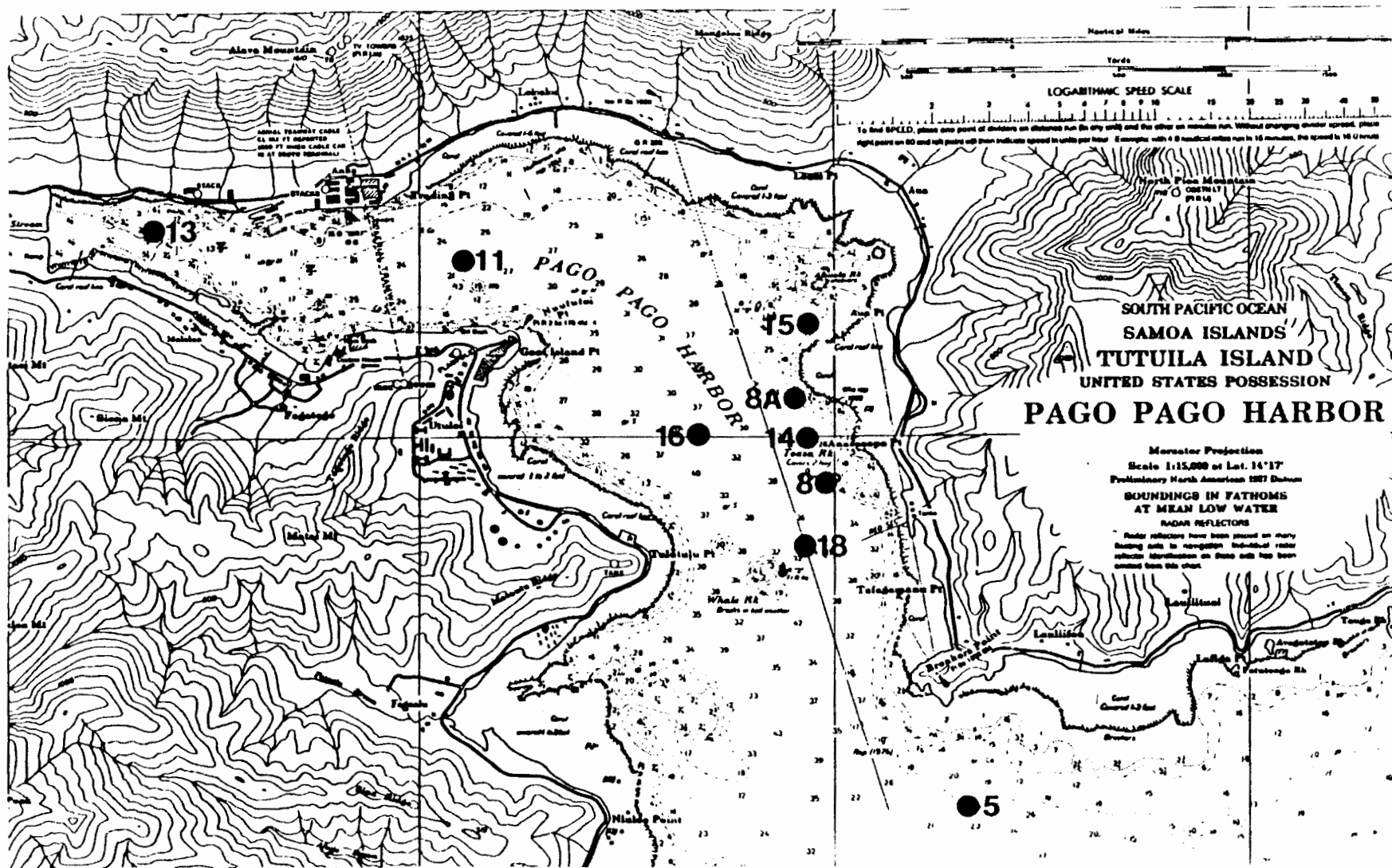


Figure 1. Receiving Water Quality Monitoring Stations

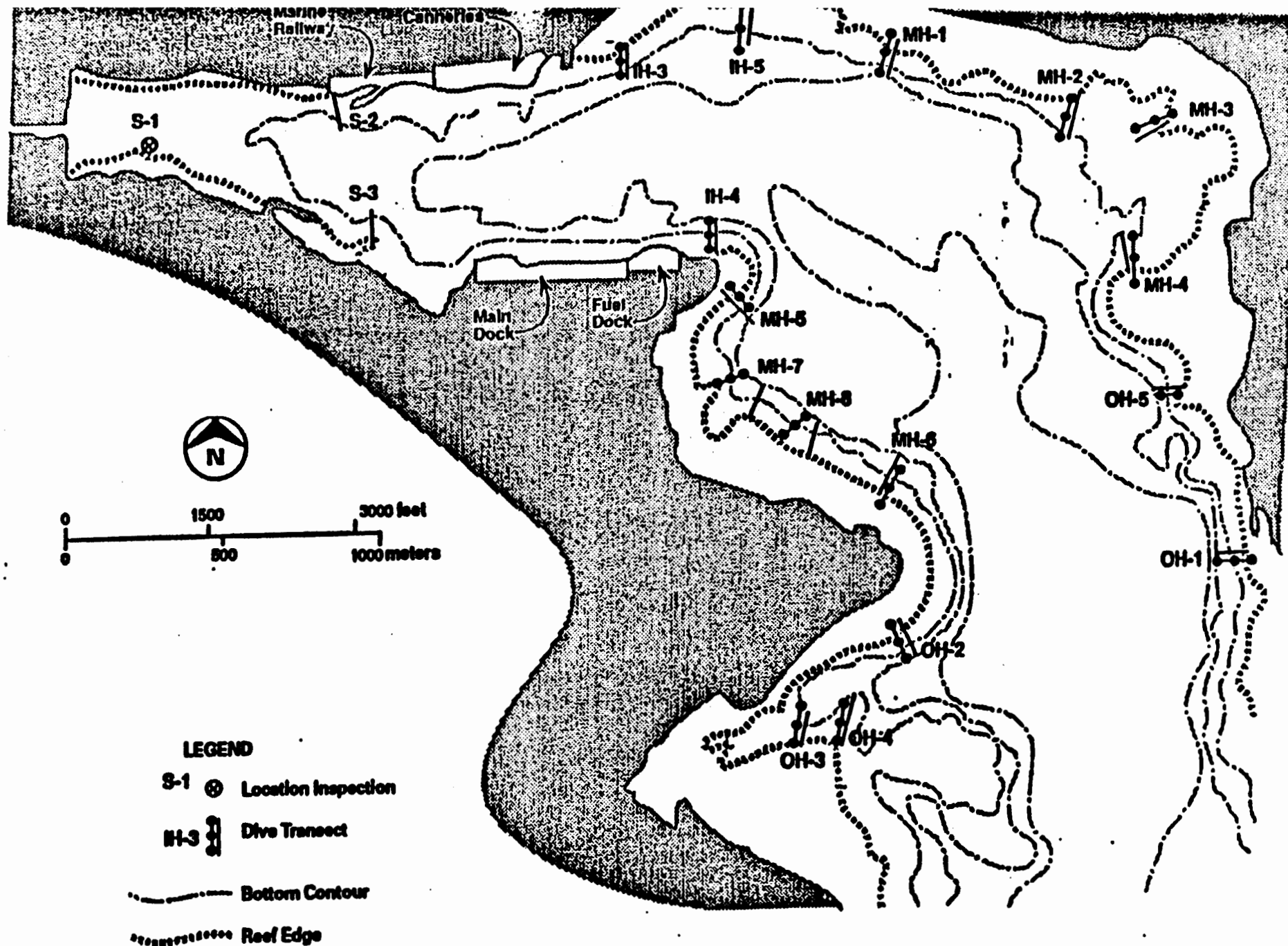


Figure 3. Coral Reef Survey Transect Locations



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION IX
75 Hawthorne Street
San Francisco, CA 94105

July 22, 2008

In Reply Refer To: WTR-7

Willem Martins, General Manager
COS Samoa Packing Company, Inc.
P.O. Box 957
Pago Pago, Tutuila, American Samoa 96799

Re: April 2, 2008 Clean Water Act Inspection

Dear Mr. Martins:

Enclosed is the July 22nd report for our April 2, 2008 inspection of the Chicken of the Sea, Samoa Packing Company. Please submit a short response to the findings in Sections 1 through 3 of this report to EPA and ASEPA, by **August 30, 2008**. The main findings are summarized below:

- 1** COS Samoa consistently complies with the NPDES permit limits for conventional pollutants, nutrients, and certain toxics that apply to the wastewater discharges into the Joint Cannery Outfall. Compliance is reached through (1) well-designed and sized primary solids removal, and (2) the diversion of high-strength wastes to marine disposal by ship.
- 2** The Joint Cannery Outfall continues to be a significant asset that benefits overall water quality in the harbor. Any increase in outfall throughput would require further pollutant removals likely involving secondary biological treatment and solids digestion. Expanded treatment, especially in conjunction with Starkist, could be a viable investment particularly if it eliminates marine disposal and recovers biogas for energy.
- 3** COS Samoa reclaims two significant waste streams, heavy fish solids into fish meal and assorted waste oils from in-plant and island off-site sources into boiler feed fuel.
- 4** Receiving water monitoring has not registered definitive evidence of impact in Pago Pago Harbor from the combined discharges from COS Samoa and Starkist through the Joint Cannery Outfall. This inspection did not cover the marine disposal by ship.

I appreciate your helpfulness of that of your staff to me during this inspection. We remain available to COS Samoa Packing and the Territory of American Samoa to assist in any way. Please do not hesitate to call me at (415) 972-3504, or e-mail arthur.greg@epa.gov.

Sincerely,

Greg V. Arthur
CWA Compliance Office

cc: Lt. Matt Vojik, ASEPA



U.S. ENVIRONMENTAL PROTECTION AGENCY

REGION 9

CLEAN WATER ACT COMPLIANCE OFFICE

NPDES COMPLIANCE EVALUATION INSPECTION

NPDES Permittee: Chicken of the Sea, Samoa Packing Company, Inc.
Atu'u, Maoputasi

Facility: P.O. Box 957, Pago Pago, Tutuila Island, American Samoa
Discharged through the Joint Cannery Outfall
(NPDES Permit No. AS0000027)

Receiving Water: Pago Pago Harbor

Date of Inspection: April 2, 2008

Inspection Participants:

US EPA: Greg V. Arthur, CWA Compliance Office, (415) 972-3504

ASEPA: None

COS Samoa: Willem Martins, General Manager, (684) 644-1206
Sam Augspurger, Utilities Manager
Poni Tupufai, Utilities Supervisor
Ann Ele, Administrator

Report Prepared By: Greg V. Arthur, Environmental Engineer, USEPA Region 9
July 22, 2008



1.0 Scope and Purpose

On April 2, 2008, EPA conducted an NPDES compliance evaluation inspection of the Chicken of the Sea, Samoa Packing Company ("COS Samoa"). The purpose was to ensure compliance with the NPDES permit and applicable Federal regulations covering the discharge of non-domestic wastewaters and storm water runoff into waters of the United States. A secondary purpose was also to identify and verify the conditions to be in future NPDES permits. In particular, it was to ensure:

- Classification in the proper Federal category;
- Application of the correct standards at the correct sampling points;
- Application of effective best management practices;
- Consistent compliance with the standards and best management practices; and
- Fulfillment of Federal self-monitoring requirements.

COS Samoa is one of the dischargers of storm or industrial wastewater to waters of the United States whose compliance was assessed as part of evaluations of the NPDES permitted discharges in American Samoa conducted in the past year. Inspection participants are listed on the title page of this report. Arthur conducted the inspection on April 2.

1.1 Background

COS Samoa is a tuna cannery sited on the northeastern side of Pago Pago Harbor in the village of Atu'u. COS Samoa is one of two canneries in American Samoa located adjacent to each other on the harbor, along with an electric power plant, can making plant, and a repair facility for tuna fishing and processing ships. COS Samoa produces cooked tuna products and fish meal. Independent contractors deliver unprocessed tuna frozen in the holds of their ships. The tuna cannery work involves dock receiving, cooking, processing, packing, refrigeration, and rendering. COS Samoa does not manufacture cans, shipping pallets, mylar packaging, or packaging labels. American Samoa Power Authority provides electrical, water, and sewer utilities. COS Samoa has boilers and stand-by electrical generation capacity. COS Samoa provides a disposal service for on-island sources of waste oil. See Sections 1.3 and 1.4 on pages 3 and 4 for further description of on-site processes.

On February 25, 2008, US EPA issued a revised NPDES permit No. AS0000027 to COS Samoa for its discharge to the harbor. Since 1992, industrial wastewater from COS Samoa and the other cannery have discharged together through the deep water Joint Cannery Outfall to the outer harbor, although each cannery holds an individual permit. The current permit became in effect on April 1, 2008 and is set to expire on March 31, 2013. The previous permit was issued on December 21, 2000. See Section 2.0 for further description of the permit requirements.

1.2 Facility SIC Code

COS Samoa is assigned the SIC code for canned and cured fish and seafoods (SIC 2091).



1.3 Facility Description

COS Samoa consists of a few interconnected buildings located adjacent to each other along a long dock on Pago Pago harbor. See the photographic documentation of this inspection in Section 1.6 of this report.

Loading Dock - Containers of frozen tuna are unloaded from fishing ships into metal holding bins stacked on the dock. The dock runs the length of the facility with curbing along the harbor and around the dock forming containment. The metal holding bins of frozen tuna are stacked within a thawing bay for circulating spray quenching. All wastewaters associated with the dock operations, including storm water run-off, process drainage, thaw water, and dock wash down, are captured within the curbing and drain into the low-strength wastewater treatment system. See Photos #1 and #2 in Section 1.6 on page 6.

Butchering - Thawed fish are loaded on moving conveyers for cutting and gutting. The blood, entrails, and eviscera go through a grinder into a floor drain leading to the high-strength waste disposal system.

Precooking - The butchered fish are loaded into tray bins for steam cooking in a series of retort cookers. The bins of pre-cooked fish are water quenched in the chilling bay. The retort condensate and cook juice generated from the retort cookers drain to the high-strength waste disposal system.

Packing - The precooked and chilled fish are loaded onto moving conveyer tables for manual skinning, boning, and sorting by grade. Tuna meat is then delivered to product lines for packaging, canning, broth/oil addition, lid seaming, retort cooking of the filled and sealed cans and packages, and final labeling and boxing. The bone and skin scrap is fed into a corkscrew auger for delivery as solids to the rendering plant. The recooked cans and mylar packages are air quench cooled. The cans and lids arrive pre-made. Boxes, labeling, and mylar packaging arrive pre-printed. Final products are shipped out by shipping container.

Refrigeration and Utilities - COS Samoa employs ammonia chillers. Plant utilities also include boilers, standby electric power generators, and air compressors. Utility room drainage collects in blind sumps. Condensate, boiler blowdown, chiller blowdown and utility room drainage all drain or are pumped into the low-strength wastewater treatment system. Plant, equipment, flooring, and conveyances are washed down with hot water plant-wide into the low-strength wastewater treatment system during the graveyard shift from 3:00am to 6:00am. Tramp oil from the blind sumps are burned in the boilers.

Rendering - COS Samoa produces a fish meal product from processing scrap. The rendering process involves re-cooking, drying through a filter press and a dryer, bone separation, and final bagging. The filter press filtrate is pumped to a settling tank in order to reclaim the fish oil. The settling tank decant drains through a floor trench to the high-strength wastewater disposal system. The fish oil is skimmed for burning as fuel in the boilers.

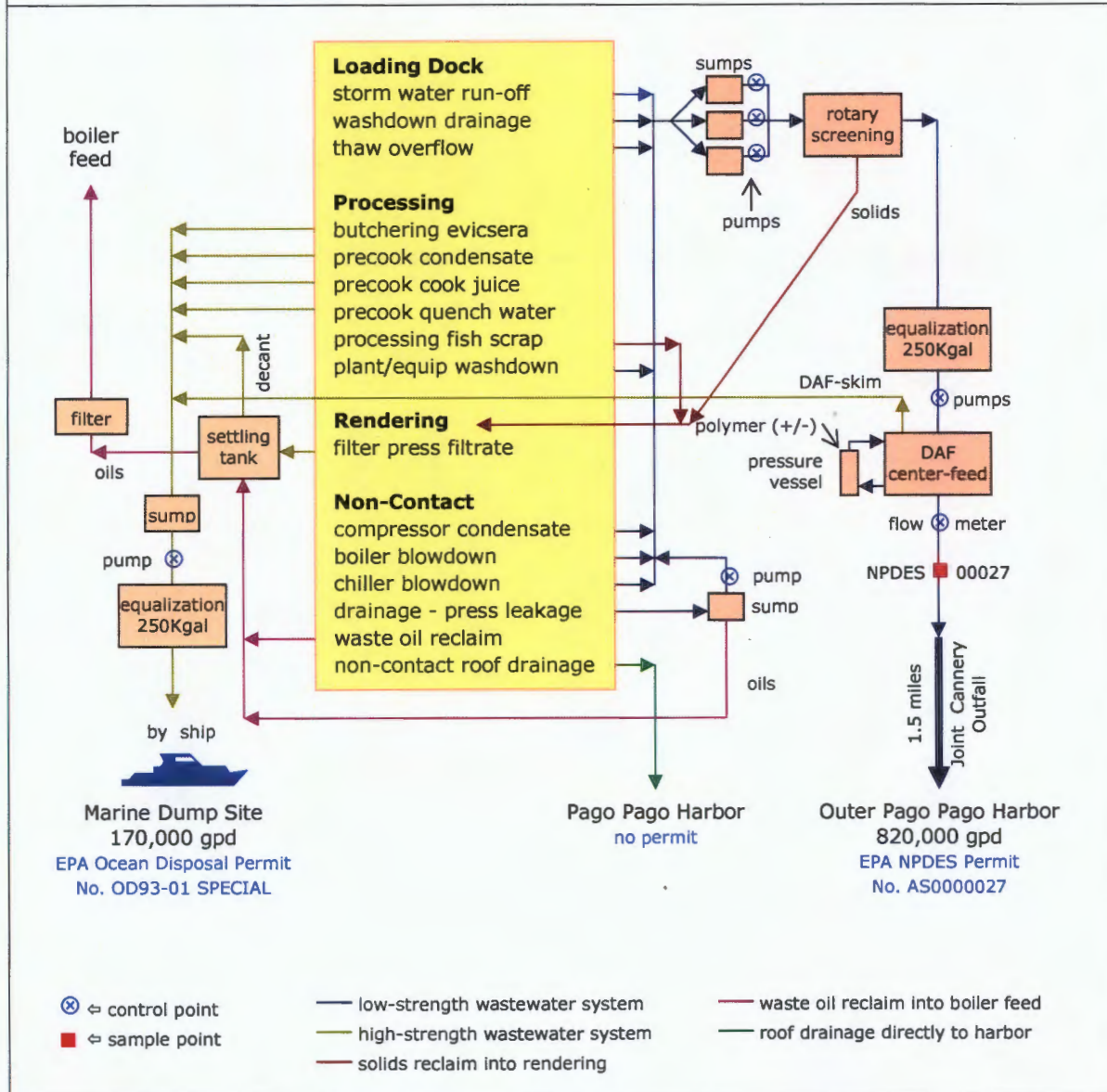
Waste Oil Reclaim - COS Samoa receives waste oil by barrel from off-site sources to burn in the boilers. These sources include on-island automotive shops, ships, and fish processing.



1.4 Facility Wastewater Sources, Handling and Discharge

COS Samoa uses between 1.0 and 1.5 million gallons per day of ASPA-provided fresh water. The resulting plant and equipment washdown, thaw and quench waters, steam condensate, and various equipment blowdowns, along with fish processing wastes, storm water run-off, and off-site waste oil are handled for disposal and discharged in five principle ways.

Figure 1.4.1
COS Samoa Packing Company - Configuration



Low-Strength Wastewaters – Plant and equipment washdowns, contact storm water run-off, and non-contact utility waters generated through out the facility discharge to facility-wide floor drainage systems leading to low-strength wastewater treatment with a design capacity of 1.4 mgd. These low-strength wastewaters carry fish slime, blood, some entrails and other solids, oils, and chemical cleaners. The low-strength wastewaters collect in a series of sumps



that feed drainage through rotary screen filters to remove bulk solids. The screened wastewaters drain to an equalization tank for pumping through a center-feed dissolved air flotation (“DAF”) clarifier to further remove light solids. A mid-level tap located distant from the center-feed inlet draws decanted wastewater for pressurization. Both cationic and anionic polymers are added to the pressure vessel. The pressurized contents produce dissolved air upon release in the DAF unit. The DAF decant discharges through a flume to a 14-inch pipeline for discharge through the 1.5-mile Joint Cannery Outfall. COS Samoa discharges 820,000 gallons per day on average to the outfall. The discharge flume serves as the NPDES permit sample point, designated in this report as NPDES-00027. The low-strength wastewaters from both COS Samoa and Starkist feed through the outfall for combined discharge to the Outer Pago Pago Harbor. See Photos #3, #4, #5, #7 and #8 in Section 1.6 on pages 6 - 7.

High-Strength Wastes - The high-strength solids and wastewaters from butchering and pre-cooking collect into a sump for pumping to an equalization tank with over a day of storage. The equalization tank contents are pumped to a ship, the Blue Moon, for off-site hauling to an EPA-approved ocean dump site. COS Samoa generates ~170,000 gallons of high-strength waste per day. See Photos #5 and #6 in Section 1.6 on page 7.

Non-Contact Wastewaters - The non-contact wastewaters associated with the plant utilities drain to the low-strength wastewater system. These wastewaters include non-contact air compressor condensate, boiler blowdown, chiller blowdown, and utility room drainage, which is captured in and pumped from a small sump. Non-contact roof drainage discharges by downspouts directly to the ocean. See Photo #5 in Section 1.6 on page 7.

Solids - Processing scrap from packing is delivered by auger through floor trenching to an on-site rendering plant to produce fish meal. Fish processing scrap and rotary screenings removed from the low-strength wastewater feed into a cooker followed by a filter press, dryer, bone separation, and bagging. The filter press filtrate processes through a settling tank for the skimming of the oils, with the water-fraction decant discharged by floor drain to the high-strength wastewater inlet sump. See Photo #9 in Section 1.6 on page 7.

Waste Oil - Skimmed fish oil from the rendering plant and waste oils from off-site sources are decanted and filtered as feed for the facility boilers. Compressor hydraulic leakage is blotted by adsorbent for off-site disposal. See Photo #10 in Section 1.6 on page 7.

1.5 Facility Wastewater Composition

Low-Strength Wastewater - These wastewaters, discharged through the Joint Cannery Outfall, and which average 3,000 mg/l-BOD influent and 800 mg/l-BOD effluent, contain fish blood, slime, solids, and oils, as well as the chemical cleaners used in plant and equipment washdown. Fish-related products would be expected to contain organics, non-petroleum fats and oils, suspended solids, ammonia-nitrogen, and trace elements in the fish tissue such as iron, phosphorus, and mercury. The chemical cleaners contain alkaline non-phosphated cleaners and emulsifying degreasers (*hydroxides, metasilicates*), as well as chlorinated non-foaming cleaners (*sodium dichloroisocyanurate*).



High-Strength Wastes - These wastes (>50,000 mg/l-BOD), shipped out to an ocean dump site, would be expected to entrain the same contaminants as the low-strength wastewaters, but at higher concentrations.

Roof Drainage - These flows, discharged directly to the harbor by downspout, would not be expected to entrain pollutants beyond possibly zinc from galvanized metal roofing as well as slightly oily atmospheric grime.

1.6 Photo Documentation

Nine of the 11 digital photographs taken during this inspection and one of 21 taken from Starkist are depicted here in this section. The COS Samoa photographs are saved as *samoa-cos-01.jpg through -11.jpg*. The Starkist photograph is saved as *samoa-starkist-14.jpg*.



Photo #1: Harbor Dock - Shows Curbing / Washdown
Taken By: Greg V. Arthur
Date: 04/02/08



Photo #2: Harbor Dock - Fish Slime from Thawing
Taken By: Greg V. Arthur
Date: 04/02/08



Photo #3: Low-Strength Wastewater - DAF Unit
Taken By: Greg V. Arthur
Date: 04/02/08



Photo #4: Outfall and High-Strength Lines
Taken By: Greg V. Arthur
Date: 04/02/08



Photo #5: Line to the Joint Cannery Outfall
Taken By: Greg V. Arthur
Date: 04/02/08



Photo #6: Blue Moon - Ship to Ocean Dump Site
Taken By: Greg V. Arthur
Date: 04/03/08



Photo #7: NPDES Sample Point - 00027
Taken By: Greg V. Arthur
Date: 04/02/08



Photo #8: NPDES Sample Point - Flow Meter
Taken By: Greg V. Arthur
Date: 04/02/08



Photo #9: Processing Scrap - Auger to Rendering
Taken By: Greg V. Arthur
Date: 04/02/08

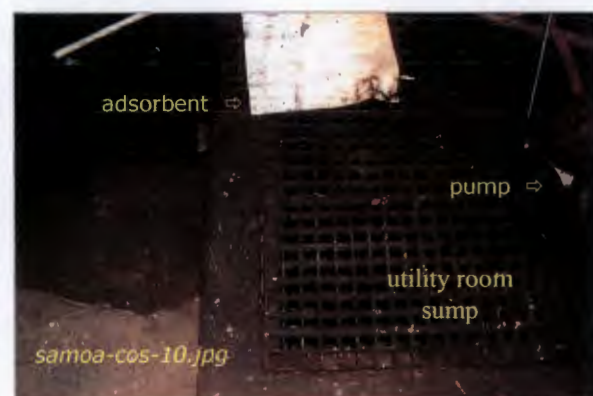


Photo #10: Utility Room Sump - Adsorbent
Taken By: Greg V. Arthur
Date: 04/02/08



2.0 NPDES Permit Requirements

The NPDES permit must apply Federal BAT/NSPS standards to all regulated sources and the American Samoa water quality standards to the discharge to the ocean.

Summary

The NPDES permit authorizes the discharge of low-strength wastewater through the Joint Cannery Outfall. The permit imposes effluent discharge limits that apply both Federal standards for tuna processing and American Samoa water quality standards to the discharge from COS Samoa into the Joint Cannery Outfall. The Federal standards impose production-based limits for total suspended solids, oil and grease, and pH. The American Samoa water quality standards establish effluent discharge limits for phosphorus, total nitrogen, ammonia, copper, zinc, and mercury, as well as a number of narrative and numerical receiving water limits for the combined discharge from the Joint Cannery Outfall. Finally, the NPDES permit requires COS Samoa to develop best management practices for spill and drainage control, a pollution minimization plan for the sources of copper, zinc, and mercury, and a chronic toxicity study. See Sections 2.3 through 2.4 for NPDES permit narrative requirements and permit limits.

Requirements

- None.

Recommendations

- The NPDES permit should specifically identify the compliance sampling point for the discharge of effluent from COS Samoa into the Joint Cannery Outfall.

2.1 Permit Applicability

NPDES Permit AS0000027 currently in effect was issued February 28, 2008. The previous version was issued effective on January 23, 2000. The Federal regulations in 40 CFR 122.21(d) allowed the administrative extension of the permit because COS Samoa submitted its application for permit renewal at least 180 days before it expired. All versions of the NPDES permit apply the Federal categorical standards and American Samoa water quality standards to the effluent discharge from COS Samoa into the Joint Cannery Outfall, identified as the effluent flume and designated in this report as the sample point NPDES-0000027. The NPDES permit also applies the American Samoa water quality standards to the receiving waters around the Joint Cannery Outfall, which is designated in the permit as Discharge Point 001. The NPDES permit does not authorize any other discharges from COS Samoa.

The discharge of high-strength waste by ship to a Federally-permitted ocean disposal site is authorized under a separate permit (EPA Ocean Disposal Permit No. OD93-01 SPECIAL). This inspection did not include a compliance evaluation of the ocean dumping permit.



2.2 Federal BAT/NSPS Categorical Standards

The Federal categorical standards for tuna processing in 40 CFR 408 Subpart N apply to the effluent discharge from COS Samoa to the Joint Cannery Outfall. They are not applied to the outfall discharge to the harbor. The Federal standards impose loading limits for total suspended solids and oil and grease, based on a maximum average daily production of 450 tons of tuna processed per day. The Federal standards also impose pH limits. COS Samoa does not generate any wastewaters regulated under any other Federal categorical standard in 40 CFR 407-471.

2.3 Effluent Discharge Limits

The NPDES permit applies Federal categorical standards and American Samoa water quality standards limits to the effluent discharge from COS Samoa into the Joint Cannery Outfall, designated in this report as the sample point NPDES-00027.

Figure 2.3

NPDES Permit - Discharge Standards and Limits for COS Samoa Packing Company

NPDES Permit ① AS00027 §I.A Table 1	Before April 1, 2008		After April 1, 2008		monitoring frequency	sample type
	d-max	mo-avg	d-max	mo-avg		
flow (mgd)	1.40	-	②	-	continuous	flume
BOD (mg/l)	②	②	②	②	weekly	24-hr
TSS (lbs/d)	5976	2376	7470	2970	weekly	24-hr
oil and grease (lbs/d)	1512	605	1890	756	weekly	grab ④
total nitrogen (lbs/d)	1935	800	1935	800	2/week	24-hr
total phosphorus (lbs/d)	271	208	271	208	2/week	24-hr
ammonia-N (lbs/d)	-	-	1953	973	weekly	24-hr
mercury (lbs/d)	-	-	0.06	0.02	2/year	24-hr
copper (lbs/d)	-	-	1.37	0.68	2/year	24-hr
zinc (lbs/d)	-	-	26.7	13.3	2/year	24-hr
ammonia-N (mg/l)	133	-	167	83	weekly	24-hr
mercury (µg/l)	-	-	4.72	1.80	2/year	24-hr
copper (µg/l)	108	66	117	58	2/year	24-hr
zinc (µg/l)	1770	1545	2284	1138	2/year	24-hr
temperature (°F)	95°F	90°F	95°F	90°F	continuous	probe
pH - min/max (s.u.) ③	6.5 - 8.6	-	6.5 - 8.6	-	continuous	probe
acute toxicity (t.u.)	②	②	-	-	-	-

① These limits apply at the flume discharge into the Joint Cannery Outfall (NPDES-00027).

② Monitoring only - No limits.

③ Time outside limits cannot exceed 7 hrs 26 min / month - No excursion can exceed 60 min.

④ Manual composites of four grab samples per day

The NPDES permit applies Federal production-based standards established as mass-loading limits for total suspended solids, and oil and grease, as well as a limit for pH. The NPDES



permit also applies American Samoa water quality standards established as limits based on the dilution available through the use of the Joint Cannery Outfall for phosphorus, nitrogen, ammonia, copper, zinc, mercury, and temperature. An acute toxicity limit was not included in the current NPDES permit because two pollutants with specific limits, ammonia and zinc have been identified as the likely causes of any toxicity found in the discharge.

2.4 Site-Specific Receiving Water Limits

The NPDES permit applies American Samoa water quality standards as receiving water limits that apply to both COS Samoa and Starkist for the combined discharge from the Joint Cannery Outfall into Pago Pago Harbor.

Figure 2.4.1

NPDES Permit - General Receiving Water Prohibitions

§I.A	Discharges are only authorized from the Joint Cannery Outfall outlet.
§I.B.1	Discharges shall be substantially free from materials attributable to sewage, industrial wastes ... that will produce objectionable color, odor, or taste in the harbor or biota.
§I.B.2	Discharges shall be substantially free from visible floating materials, grease, oil, scum, foam, and other floating material attributable to sewage, industrial wastes ...
§I.B.3	Discharges shall be substantially free from materials attributable to sewage, industrial wastes ... that will produce visible turbidity or settle to form objectionable deposits.
§I.B.4,6	Discharges shall be substantially free from substances and conditions ... which may be toxic to humans, animals, plants, and aquatic life, or produce undesirable aquatic life.
§I.B.5	Discharges shall not cause a $>1.5^{\circ}\text{F}$ change, $>1^{\circ}\text{F}$ hourly fluctuation, or exceed 85°F .

Figure 2.4.2

NPDES Permit - Zone of Initial Dilution Prohibitions

§I.B.7	Discharges shall not cause turbidity to exceed 0.75 Nephelometric Units.
§I.B.8	Discharges shall not cause a light penetration depth <65 feet for $>50\%$ of the time.
§I.B.9	Discharges shall not cause dissolved oxygen of $<70\%$ saturation, or <5.0 mg/l.

Figure 2.4.3

NPDES Permit - Zone of Mixing Prohibitions

§I.C.1	Discharges shall not cause a water column concentration >0.05 $\mu\text{g/l}$ mercury.
§I.D.1	Discharges shall not cause concentrations >30.0 $\mu\text{g/l}$ total phosphorus.
§I.D.2	Discharges shall not cause concentrations >200.0 $\mu\text{g/l}$ total nitrogen.
§I.D.3	Discharges shall not cause concentrations >1.0 $\mu\text{g/l}$ chlorophyll-a.

The NPDES permit requires COS Samoa to conduct semi-annual self-monitoring of the receiving waters at the following five sampling stations: Station 5 reference site, Station 14 at the end-of-pipe, Stations 8 and 8a at the zone of initial dilution boundary, and Station 16 at the zone of mixing boundary.



3.0 Compliance with NPDES Permit Requirements

Industrial and storm water discharges are authorized only from the Joint Cannery Outfall into Pago Pago Harbor and from a commercial vessel, the Blue Moon, to an off-shore EPA-permitted ocean disposal site. [NPDES Permit §I.A]

Industrial waste and storm water discharges from the Joint Cannery Outfall must comply with the NPDES permit discharge limitations set forth as the application both of Federal standards and the American Samoa water quality standards. [NPDES Permit §I.A]

Combined discharges from COS Samoa and Starkist must not cause adverse impacts in the receiving waters around the Joint Cannery Outfall. [NPDES Permit §I.B, C, and D]

Summary

COS Samoa consistently complies with its NPDES permit effluent limits for conventional pollutants (*total suspended solids, pH, oil and grease*), and for nutrients (*total nitrogen, total phosphorus*). Compliance is reached through primary solids removal with rotary screening, equalization, dissolved air flotation (all well-designed and sized), and the effective diversion of high-strength wastes to marine disposal by ship. Any increase in outfall throughput would require further removals likely involving biological treatment and solids digestion. Expanded treatment, especially in conjunction with Starkist, could be a viable investment if it involves the elimination of the marine disposal by ship and the recovery of biogas for energy. COS Samoa also is expected to consistently comply with its NPDES permit effluent limits for toxics (*ammonia, mercury, copper, zinc*) and is not expected to introduce other toxics in toxic amounts (*petroleum distillates, pesticides, PCBs, solvents*). Finally, receiving water monitoring does not indicate measurable impacts in Pago Pago Harbor from the combined discharges from COS Samoa and Starkist through the Joint Cannery Outfall.

Requirements

- None.

Recommendations

- COS Samoa should determine the feasibility of expanding treatment to recover the waste energy content and perhaps eliminate the marine disposal of high-strength wastewaters.

3.1 NPDES Permit Effluent Limits for COS Samoa

See Appendix 1 for sampling results of the discharge to the Joint Cannery Outfall for conventional pollutants, nutrients, and metals, as well as for a single priority pollutants scan.

Conventional Pollutants - COS Samoa consistently complies with its NPDES permit limits for the discharge of conventional pollutants into the Joint Cannery Outfall. Fish parts and wastes comprise the sources of conventional pollutants in the discharge. Primary solids



removal, involving well-designed and properly-sized rotary screening, equalization, and dissolved air flotation, resulted in average and 99th% peak concentrations of 184.1 and 348.3 mg/l total suspended solids ("TSS"), 868.2 and 2791.5 mg/l biochemical oxygen demand ("BOD"), and 61.7 and 148.6 mg/l oil and grease. The resulting removal rates averaged 75% for TSS, 80% for oil and grease, and 60% for BOD. As a result, consistent compliance with the NPDES permit limits is expected to continue, through primary solids removal and the effective diversion of high-strength wastes to marine disposal by ship.

Nutrients - COS Samoa consistently complies with its NPDES permit limits for the discharge of total nitrogen and total phosphorus into the Joint Cannery Outfall. Fish parts and wastes comprise the source of nutrients in the discharge. Primary solids removal resulted in average and 99th% peak concentrations of 98.2 and 131.2 mg/l total nitrogen, and 14.4 and 21.3 mg/l total phosphorus. The removal rates averaged 40% for both nitrogen and phosphorus. These removal rates are roughly half that for the conventional pollutants, which indicates that the nutrients exist more in a dissolved state and not in the oil fraction. Nevertheless, primary solids removal and diversion of high-strength wastes to marine disposal, removes enough of the nutrients to result in continued consistent compliance with the NPDES permit limits.

Toxic Pollutants - COS Samoa consistently complies with its NPDES permit limits for the discharge of toxics into the Joint Cannery Outfall. The permit establishes limits only for mercury, copper, and zinc, all thought to come from fish parts and wastes, and for ammonia, which is also entrained in fish parts and wastes, a fraction of which, depending on the pH of the receiving water, is in the un-ionized toxic form. Primary solids removal resulted in average and 99th% peak concentrations of 0.069 and 0.169 µg/l mercury, 5.98 and 11.4 µg/l copper, 355.1 and 635.5 µg/l zinc, and 35.8 and 55.9 mg/l ammonia. A single priority pollutants scan also indicated the presence of a very limited set of other toxics not associated with fish parts and waste (*toxic metals, toxic organics, cyanide, pesticides, solvents, petroleum products, PCBs*), with most results below their method detection limits. The site inspection confirms that there are a few well-controlled entry points to the sewers from oil storage areas, and the use of a limited set of cleaners (*hydroxides, metasilicates, dichloroisocyanurate*).

Temperature and pH - COS Samoa consistently complies with its NPDES permit limits for the pH and temperature of the discharge into the Joint Cannery Outfall.

3.2 NPDES Permit Receiving Water Limits

See Appendix 2 for the sample results of the receiving waters in and around the discharge from the Joint Cannery Outfall for dissolved oxygen, nutrients, ammonia and metals.

Conventional Pollutants - Dissolved oxygen and visual observations of the harbor surface are the measures in the receiving waters reflective of the impacts of conventional pollutants from the combined discharge from the Joint Cannery Outfall to the Pago Pago Harbor. These measures do not indicate a measurable impact in the receiving waters from the outfall discharge of conventional pollutants. In particular, no oily slicks, floating solids, or cloudy conditions were seen around the outfall, and nearly all samples met the standard for dissolved oxygen at the four sampling stations influenced by the outfall discharge. Moreover, the two



sample results below 5.0 mg/l (2 of 72 samples), are not conclusive evidence of a measurable impact in violation of the NPDES permit requirements. One was from a station influenced by the outfall but within the zone of mixing and thus not regulated by permit for dissolved oxygen, and the other was from a reference station away from the influence of the outfall discharge.

Nutrients - Nutrient levels over the water quality standards were found at all stations sampled for nutrients, specifically at all three stations influenced by the outfall discharge, and at one reference station away from influence. Nevertheless, for a number of reasons, the numerous sample results above 200 µg/l-total nitrogen (20 of 48 samples) and the few above 30 µg/l-total phosphorus (3 of 48 samples) are not conclusive evidence of a measurable impact from the Joint Cannery Outfall discharge in violation of the NPDES permit requirements. First, nitrogen levels exceeded standards at all of the stations including the reference station. Second, the total nitrogen and phosphorus standards are applied only at the zone of mixing boundary and outward. Third, COS Samoa complies with the permit effluent limits for total nitrogen and phosphorus in its discharge into the Joint Cannery Outfall. Finally, any measurable impacts in the receiving waters from the Joint Cannery Outfall discharge are not solely the responsibility of COS Samoa.

Toxics - The NPDES permit applies water quality standards for toxics only at the zone of mixing boundary and for only mercury. All samples, including those taken from at the zone of mixing station, met the NPDES permit limits. Moreover, COS Samoa complies with the permit effluent limits for ammonia, copper, zinc, and mercury in its discharge into the Joint Cannery Outfall.

3.3 Expanded Treatment

Within the loading limits in the NPDES permit, the Joint Cannery Outfall has some available capacity to accept additional wastewater flow and pollutant loadings from COS Samoa. Specifically, over the past year, peak flow rates reached 70% of permitted capacity. For pollutants, the percent of permitted capacities reached were 60% for oil and grease, 45% for total suspended solids, 85% for total nitrogen, 55% for total phosphorus, and 45% for ammonia. Therefore, in particular because of total nitrogen loadings, any increase in outfall throughput would require further removals that would likely involve biological treatment and solids digestion. Expanded treatment, especially in conjunction with Starkist, could be a viable investment if it involves the elimination of the marine disposal by ship and the recovery of biogas for energy.

Overall, discharges from COS Samoa by ship or through the outfall average approximately 1.0 million gallons per day and total roughly 85,000 lbs/day-BOD. Through anaerobic digestion the organics loadings totals could produce as much as 500,000 ft³/day methane biogas with an energy content up to 120 therms/day (3,500 kilowatts/day). Together with Starkist, a joint biological treatment plant with anaerobic digestion could process as much as 200,000 lbs/day of volatile solids resulting in the production of biogas with an energy content up to 275 therms/day (8,000 kilowatts/day).

**Appendix 1.1**

COS Samoa Packing Company

Sampling Results for Conventional and Nutrients (March 2007 – February 2008)

pollutants	Influent			Effluent ①			violation rates		sample count
	mean	99th%	max	mean	99th%	max	d-max	mo-av	
flow rate (mgd)				823542	979276	958100	-	-	98
total susp solids (lbs/d)				1277.2	2389.4	2105.7	0 / 49	0 / 12	49
total nitrogen (lbs/d)				674.6	960.0	1081.8	0 / 98	0 / 12	98
total phosphorus (lbs/d)				99.2	148.1	155.3	0 / 98	0 / 12	98
oil and grease (lbs/d)				420.2	906.0	971.8	0 / 25	0 / 12	25
total susp solids (mg/l)	754.3	1441.6	1825.0	184.1	348.3	295.0	-	-	49
total nitrogen (mg/l-N)	165.1	280.8	501.2	98.2	131.2	139.3	-	-	98
total phosphorus (mg/l)	22.8	38.8	71.3	14.4	21.3	22.3	-	-	98
oil and grease (mg/l)	322.7	719.0	857.1	61.7	140.2	148.6	-	-	25
BOD (mg/l)	2062.9	4429.1	4983.3	868.2	2347.9	2791.5	-	-	12
temperature (°C)				83°F	-	90°F	0 / 365	-	②
pH minimum (s.u.)				-	6.6 min	8.0 max	0 / 365	-	②

① Effluent samples collected from IWD-00027 before discharge into the Joint Cannery Outfall.

② Continuous monitoring

Appendix 1.2

COS Samoa Packing Company

Sampling Results for Metals and Toxics (January 2006 - June 2008)

pollutants	Influent			Effluent ①			violation rates		sample count
	mean	99th%	max	mean	99th%	max	d-max	mo-av	
ammonia (mg/l-N)	46.5	82.9	104.8	35.8	55.9	58.5	0 / 50	0 / 1	50
mercury (µg/l)				0.096	0.169	0.162	0 / 1	0 / 1	9
copper (µg/l)				5.98	11.39	9.65	0 / 9	0 / 5	9
zinc (µg/l)				355.1	635.5	497.7	0 / 9	0 / 5	9
ammonia (lbs/d)				-	-	331.0	0 / 1	0 / 1	1
mercury (lbs/d)				-	-	0.001	0 / 1	0 / 1	1
copper (lbs/d)				-	-	0.027	0 / 1	0 / 1	1
zinc (lbs/d)				-	-	1.76	0 / 1	0 / 1	1

① Effluent samples collected from IWD-00027 before discharge into the Joint Cannery Outfall.



Appendix 1.3

COS Samoa Packing Company

Sampling Results for Priority Pollutants (September 22 - 23, 2004)

toxic inorganics and metals		toxic organics, pesticides, and PCBs	
aluminum (µg/l)	87.1	bromide (µg/l)	< 300
antimony (µg/l)	< 40	endosulfan I (µg/l)	0.0074
arsenic (µg/l)	17.7	4,4'-DDE (µg/l)	0.012
barium (µg/l)	3.5	chloromethane (µg/l)	< 0.31
beryllium (µg/l)	< 0.4	vinyl chloride (µg/l)	< 0.58
boron (µg/l)	77.1	bromomethane (µg/l)	< 0.81
cadmium (µg/l)	< 5.0	chloroethane (µg/l)	< 0.46
chromium (µg/l)	< 3.0	1,1-dichloroethene (µg/l)	< 0.48
cobalt (µg/l)	< 5.0	methylene chloride (µg/l)	< 0.21
copper (µg/l)	5.0	chloroform (µg/l)	< 0.21
total cyanide (µg/l)	< 3.0	1,1-dichloroethane (µg/l)	< 0.34
iron (µg/l)	495	1,1,1-trichloroethane (µg/l)	< 0.45
lead (µg/l)	< 2.0	carbon tetrachloride (µg/l)	< 0.38
manganese (µg/l)	13.3	benzene (µg/l)	0.27
mercury (µg/l)	0.230	1,2-dichloroethane (µg/l)	< 0.12
molybdenum (µg/l)	9.5	bromodichloromethane (µg/l)	< 0.17
nickel (µg/l)	< 20	dibromochloromethane (µg/l)	< 0.15
selenium (µg/l)	8.0	toluene (µg/l)	29.0
silver (µg/l)	< 5.0	ethylbenzene (µg/l)	1.6
sulfates (µg/l)	11,700	phenol (µg/l)	300
sulfites (µg/l)	19,000	naphthalene (µg/l)	3.6
sulfides (µg/l)	970	fluorene (µg/l)	1.3
zinc (µg/l)	286	phenanthrene (µg/l)	1.8
		di-n-butyl phthalate (µg/l)	0.58
		bis(2-ethylhexyl)phthalate (µg/l)	14.0
		total phenolics (µg/l)	90
		MBAS (µg/l)	40
		other volatiles	②
		other semivolatiles	②
		other organochlorine pesticides	②
		other PCBs	②

① Effluent samples collected from IWD-00027 before discharge into the Joint Cannery Outfall.

② Less than the method detection limits for EPA methods 608, 624, 625

**Appendix 2****Joint Cannery Outfall****Receiving Water Monitoring (2006 - 2007) ①**

parameters	Station 5 - Outer Harbor			Station 8 - ZID			Station 8A - ZID		
	mean	max	over ②	mean	max	over ②	mean	max	over ②
dissolved oxygen (mg/l)	6.39	6.01	0 / 12	6.11	5.50	0 / 12	5.81	5.22	0 / 12
total nitrogen (mg/l)	0.219	0.676	3 / 12	0.264	0.794	4 / 12	0.275	0.636	7 / 12
total phosphorus (mg/l)	0.014	0.030	0 / 12	0.023	0.040	1 / 12	0.020	0.030	0 / 12
ammonia (mg/l-N)	0.009	0.024	0 / 9	0.010	0.042	0 / 12	0.016	0.080	0 / 12
copper (µg/l)	0.337	0.740	0 / 12	0.337	0.750	0 / 12	0.215	0.320	0 / 12
zinc (µg/l)	2.17	5.90	0 / 12	1.49	3.16	0 / 12	1.02	1.72	0 / 12
mercury (µg/l)	0.0059	0.0135	0 / 12	0.0053	0.0193	0 / 12	0.0039	0.0137	0 / 12

parameters	Station 13 - Inner Harbor			Station 14 - Outfall			Station 16 - ZOM		
	mean	max	over ②	mean	max	over ②	mean	max	over ②
dissolved oxygen (mg/l)	5.89	2.89	1 / 12	5.88	4.97	1 / 12	6.14	5.82	0 / 12
total nitrogen (mg/l)	-	-	-	-	-	-	0.213	0.419	5 / 12
total phosphorus (mg/l)	-	-	-	-	-	-	0.022	0.040	2 / 12
ammonia (mg/l-N)	0.044	0.120	0 / 12	0.015	0.041	0 / 12	0.007	0.015	0 / 12
copper (µg/l)	0.722	1.460	0 / 12	0.229	0.440	0 / 12	0.360	0.960	0 / 12
zinc (µg/l)	3.51	9.36	0 / 12	1.06	2.61	0 / 12	4.82	38.7	0 / 12
mercury (µg/l)	0.0017	0.0036	0 / 12	0.0022	0.0051	0 / 12	0.0074	0.0397	0 / 12

① Semi-annual sampling at three water column depths for each station.

② Indicates the rate of water column samples exceeding the water quality standards.

Reference Stations

Station 5 - Outer Harbor in Ocean Transition Zone

Station 13 - Inner Harbor in Uppermost Zone

Stations Influenced by the Outfall Discharge

Station 14 - Outfall Discharge

Station 8 - Zone of Initial Dilution (Lower Boundary)

Station 8A - Zone of Initial Dilution (Upper Boundary)

Station 16 - Zone of Mixing Boundary